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ABSTRACT

This third annual National Education Goals Report continues the work begun at the Charlottesville (Virginia) Education Summit in 1989, when the nation's governors and President Bush agreed on six national goals for education to be achieved by the year 2000. The goals were intended to energize public opinion and ongoing education reform efforts by holding the United States to much higher expectations for all students and for the schools and learning systems that serve them. This volume describes the educational standing of the nation. In this third report, the focus is on the rationale for and potential implications of the movement the effort has come to be most closely associated with: establishing voluntary nationwide education standards. As in the past, the report contains the most up-to-date information available on the nation's current status with regard to meeting the six goals. Overall, the findings continue to reveal how far the nation is from achieving the goals. Modest progress is apparent in some areas, such as mathematics achievement and school safety, but there is stagnation or movement in the wrong direction in others (high school completion and adult literacy). The current rate of progress is wholly inadequate for achievement of the goals by the year 2000. New analyses conducted for the Goals Panel show that nearly one-half of all infants born in the United States begin life with one or more factors considered risky to their long-term educational development. While the incidence of students being victimized at school appears to have declined slightly, the levels are still unacceptably high. About one in five 8th graders report being threatened with a weapon in 1992, while one out of ten report carrying a weapon on school grounds. By documenting without equivocation how much more effort is needed from all Americans, the Panel creates the conditions necessary for a significant renewal in American education. The report is illustrated by 137 exhibits. Three appendixes provide technical notes and sources, descriptions of federal programs, and department and agency titles. (SLD)

THE NATIONAL EDUCATION GOALS REPORT

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Volume One: The National Report

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1993

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BUILDING A NATION OF LEARNERS

THE NATIONAL EDUCATION GOALS REPORT

BUILDING A NATION OF LEARNERS

Volume One:
The National Report

1993

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Foreword

The National Education Goals remain at the forefront of the movement to *build a nation of learners*. In the past year, the Presidency changed hands, as have over half the Governorships in the four years since the Education Summit in Charlottesville, Virginia. These changes serve to underscore the continuity, bipartisanship, and long-term nature of the National Goals process.

Where vision and commitment count the most, however, is at the community and neighborhood levels. Only through an enduring partnership of families, educators, employers, and other dedicated citizens can America's learning enterprise — our local schools — be transformed to help *all* our children reach their full potential. Only then will we become a nation of lifelong learners. And only then can we be confident of meeting the competition in this global economy, assuring a high quality of life, and preserving our democratic system and ideals.

This Report continues our commitment to let the American people know the results we are getting in education. We strive to present the facts plainly, this year in two volumes: Volume 1 describes our educational standing as a nation, while Volume 2 profiles performance in the individual states. We also offer a vision of how high standards can help mobilize grass-roots partnerships and move the United States toward quality education. And continue to move forward we must — at an accelerated pace — in order to attain the Goals by the year 2000.

Over the past year, the National Education Goals Panel has worked hard to bring the Goals and the vision of high-performance learning for *all* to this nation's communities. The theme for this third annual Report, "Setting Standards, Becoming the Best," highlights that outreach and partnership effort. Along with state and local goals, vision documents, and progress reports, we hope this Report will become a tool for continuous improvement.

Sincerely,

E. Benjamin Nelson, Chair
(August 1992 - August 1993)
National Education Goals Panel, and
Governor of Nebraska

Governors

John R. McKernan, Jr., Chair
(August 1993-August 1994)
National Education Goals Panel, and
Governor of Maine

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U.S. Representative
State of Michigan

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The National Education Goals

Goal 1: By the year 2000, all children in America will start school ready to learn.

Objectives:

- All disadvantaged and disabled children will have access to high quality and developmentally appropriate preschool programs that help prepare children for school.
- Every parent in America will be a child's first teacher and devote time each day helping his or her preschool child learn; parents will have access to the training and support they need.
- Children will receive the nutrition and health care needed to arrive at school with healthy minds and bodies, and the number of low-birthweight babies will be significantly reduced through enhanced prenatal health systems.

Goal 2: By the year 2000, the high school graduation rate will increase to at least 90 percent.

Objectives:

- The nation must dramatically reduce its dropout rate, and 75 percent of those students who do drop out will successfully complete a high school degree or its equivalent.
- The gap in high school graduation rates between American students from minority backgrounds and their non-minority counterparts will be eliminated.

Goal 3: By the year 2000, American students will leave grades four, eight, and twelve having demonstrated competency in challenging subject matter, including English, mathematics, science, history, and geography; and every school in America will ensure that all students learn to use their minds well, so they may be prepared for responsible citizenship, further learning, and productive employment in our modern economy.

Objectives:

- The academic performance of elementary and secondary students will increase significantly in every quartile, and the distribution of minority students in each level will more closely reflect the student population as a whole.
- The percentage of students who demonstrate the ability to reason, solve problems, apply knowledge, and write and communicate effectively will increase substantially.
- All students will be involved in activities that promote and demonstrate good citizenship, community service, and personal responsibility.
- The percentage of students who are competent in more than one language will substantially increase.
- All students will be knowledgeable about the diverse cultural heritage of this nation and about the world community.

Goal 4: By the year 2000, U.S. students will be first in the world in science and mathematics achievement.

Objectives:

- Math and science education will be strengthened throughout the system, especially in the early grades.
- The number of teachers with a substantive background in mathematics and science will increase by 50 percent.
- The number of U.S. undergraduate and graduate students, especially women and minorities, who complete degrees in mathematics, science, and engineering will increase significantly.

Goal 5: By the year 2000, every adult American will be literate and will possess the knowledge and skills necessary to compete in a global economy and exercise the rights and responsibilities of citizenship.

Objectives:

- Every major American business will be involved in strengthening the connection between education and work.
- All workers will have the opportunity to acquire the knowledge and skills, from basic to highly technical, needed to adapt to emerging new technologies, work methods, and markets through public and private educational, vocational, technical, workplace, or other programs.
- The number of quality programs, including those at libraries, that are designed to serve more effectively the needs of the growing number of part-time and mid-career students will increase substantially.
- The proportion of those qualified students (especially minorities) who enter college, who complete at least two years, and who complete their degree programs will increase substantially.
- The proportion of college graduates who demonstrate an advanced ability to think critically, communicate effectively, and solve problems will increase substantially.

Goal 6: By the year 2000, every school in America will be free of drugs and violence and will offer a disciplined environment conducive to learning.

Objectives:

- Every school will implement a firm and fair policy on use, possession, and distribution of drugs and alcohol.
- Parents, businesses, and community organizations will work together to ensure that schools are a safe haven for all children.
- Every school district will develop a comprehensive K-12 drug and alcohol prevention education program. Drug and alcohol curriculum should be taught as an integral part of health education. In addition, community-based teams should be organized to provide students and teachers with needed support.

Introduction

This third annual National Education Goals Report continues an unprecedented process of national education renewal begun at the Charlottesville Education Summit in 1989. Four years ago the nation's Governors and the President agreed on six national Goals for education to be achieved by the year 2000. The Goals were intended to energize public opinion and ongoing education reform efforts by holding us to much higher expectations for all students and for the schools and learning systems that serve them. The Governors and the President envisioned a system that would be "world-class" from early childhood through adulthood. Specifically, they challenged all of us to expect that by the beginning of the next century:

1. **All children in America will start school ready to learn.**

2. **The high school graduation rate will increase to at least 90 percent.**

3. **American students will leave grades four, eight, and twelve having demonstrated competency in challenging subject matter, including English, mathematics, science, history, and geography; and every school in America will ensure that all students learn to use their minds well, so they may be prepared for responsible citizenship, further learning, and productive employment in our modern economy.**

4. **U.S. students will be first in the world in science and mathematics achievement.**

5. **Every adult American will be literate and will possess the knowledge and skills necessary to compete in a global economy and exercise the rights and responsibilities of citizenship.**

6. **Every school in America will be free of drugs and violence and will offer a disciplined environment conducive to learning.**

The Initial Challenge: Creating a National Goals Accountability Process

The President and the nation's Governors understood that creating national education goals would prove a hollow gesture without also establishing a process for holding the nation and the states accountable for their attainment. They established the National Education Goals Panel to be at the center of that process. The Panel is comprised of eight Governors, two senior national Administration officials, and four members of Congress. Representation is balanced equally among Democrats and Republicans. This unique intergovernmental and bipartisan partnership is indicative of a commitment to a results-based national goals accountability system that transcends levels of governance and political affiliation. Significantly, the Goals Panel has continued through two national Administrations of opposite political parties.

Since its creation in July of 1990, the Panel has worked hard to lay a foundation upon which to build a cumulative record of progress. Each year at the anniversary of the Charlottesville Summit, the Panel issues a comprehensive report to the nation on the progress being made in achieving each of the six National Education Goals. The purpose of these reports is not measurement for measurement's sake, but rather to reinforce our common commitment to the National Goals process by clearly revealing where we have made progress and where we need to work harder.

With the encouragement and support of the Goals Panel, states and local communities throughout the nation have begun to create their own new education reporting mechanisms for charting their progress in achieving the National Education Goals. They also continue to organize their education reform strategies around the Goals framework.

The Challenges Ahead: Developing Voluntary Nationwide Standards and Communicating with the American People

This third annual National Goals Report focuses on the rationale for and potential implications of the movement it has come to be most closely associated with: establishing voluntary nationwide education standards. The creation of a central framework and structure for reporting progress on the National Education Goals was a major initial accomplishment of the Panel. Early on, however, the Panel recognized that for the Goals to be achieved, clear nationwide standards, reflecting what it is we want *all* students to know and be able to do, needed to be developed. In 1991, the Panel helped to create the National Council on Education Standards and Testing (NCEST) and later endorsed the Council's recommendations for

nationwide standards-setting and related new systems of student assessment.

The publication of the NCEST Report in January 1992 led to an explosion of new efforts to define education standards at the national, state, and local levels. Because of these efforts, there will soon be a common understanding of the content knowledge we want all children and young people to master. Associations, researchers, educators, and policymakers are working together to establish *content* standards in major subject areas—mathematics, science, history, geography, language arts, foreign languages, and the arts. In addition, the best professional knowledge is being applied to another important task—to create *performance* standards, or determining how good is good enough in learning content in the different subjects.

The Goals Panel will continue to be integral to these efforts and is confident that they place us on a trajectory for achieving the National Education Goals. We also believe, however, that for standards-based reform to actually lead to accomplishing the Goals, we should follow five critical principles:

1. **The development of nationwide standards must be highly inclusive, blending expert classroom knowledge with that of researchers, policymakers, and the general public.** Previous attempts to set education standards have taught us that for this process to succeed, no single individual, group, or constituency can establish them. What is needed is a broad-based national dialogue of what we should expect all our students to know and be able to do, out of which an informed consensus can emerge.

2. **The standards must not be considered a uniform national curriculum.** Rather, they should be viewed as guides and goals, establishing criteria for the development of unique and independent state and local curricula and instructional practices.

3. **The standards must be deliberately set at high levels.** After more than ten years of intensive attempts to reform American public education, two compelling facts are evident — expectations for student achievement have been disastrously low for all students, and these low expectations play a critical role in explaining our poor educational performance. The National Education Goals and the nationwide standards-setting process must commit us to high levels of mastery of knowledge by every child.

4. **The standards must be viewed as dynamic, subject to periodic review and change.** Standards should be reviewed and modified at regular intervals so that American students keep pace with the growth of knowledge.

5. **The importance of nationwide standards must be clearly and effectively communicated to the American people.** We have started a crucial effort that will only be successful if the public is committed to it. The American people must understand that the nationwide standards movement has the potential to give every child an excellent education. They must view the standards as a platform that can raise the level of education for all children, rather than as a gate that allows some in and keeps others out.

The National Education Goals Panel is committed to promoting these principles. It plans to work along with a new National Education Standards and Improvement Council and others to develop criteria and a process for reviewing and approving nationwide standards that are consistent with these criteria, and to educate the public on the subject of nationwide standards.[1] The Panel already has begun initial efforts in this regard by soliciting recommendations for standards review criteria and procedures from one of its commissioned Task Forces and by focusing this third Goals Report on the nature, importance, and future of the nationwide standards-setting movement.

With this third annual Report, the Goals Panel also begins its most concerted effort to date to communicate with the American people about the importance of the National Education Goals, the work of the Panel, and the relevance of these efforts to all Americans. It is clear that our efforts have had a major positive influence on the education reform movement and its emphasis on new systems of accountability and high standards. And key Panel findings, such as those published last year on international comparisons of student achievement and attitudes about educational performance, have served to reinforce among the education policy community the need for fundamental education reform and restructuring.

However, while this is gratifying, knowledge and commitment on the part of our education leaders is not enough. The National Education Goals can only be met with adequate understanding and commitment by the American people. This public commitment does not yet exist. For example, according to recent studies by the Public Agenda Foundation, the general

[1] The specific nature of Panel efforts in this regard will await the disposition of legislation currently before Congress.

public believes that a top education priority is to make sure that all students graduate with at least an eighth-grade education. However, the Goals Panel and other education leaders have consistently emphasized the need for all students to learn at demonstrably higher levels, so that the nation will be strong and prosperous in an increasingly skilled and global economy.

The Goals Panel is working to bridge this perception gap. Evidence of this new thrust is seen in the opening Report chapter, "Setting Standards: Being the Best," which describes for citizens the meaning and importance of "world-class" nationwide education standards. The Executive Summary has a new format this year that focuses on the importance and implications of key Panel findings on our progress in achieving the National Goals for parents and citizens. These changes, as well as other modifications to improve the readability of this Goals Report, should be viewed as precursors to sustained efforts planned for the coming year to increase public understanding of, and support for, the National Education Goals process.

In future months, the Panel will continue to strengthen its activities to underscore for the American people how world-class standards can improve the quality and nature of learning. It also will engage in other efforts designed to stimulate informed bottom-up, community-based reform that addresses local needs within the context of national priorities.

Key 1993 Goals Report Findings

As in the past, this third annual Goals Report contains the most up-to-date information currently available on our current status relative to meeting the six National Goals. It builds upon the information presented in the previous two years, and includes new findings on the status of American education. Overall, the findings continue to reveal how far we are from achieving the Goals. They show modest progress in some areas (mathematics achievement, school safety), but stagnation or movement in the wrong direction in others (high school completion, adult literacy).

Overall, this Report shows that the current rate of progress is wholly inadequate if we are to achieve the National Education Goals by the year 2000:

- New analyses conducted for the Goals Panel show that nearly one-half of all infants born in the United States begin life with one or more factors (such as tobacco or alcohol use by their pregnant mothers) that are considered risky to their long-term educational development.

- While increasing markedly in the early 1980s, the high school completion rate among 19- and 20-year-olds has been relatively stable since then, and remains short of the national Goal of 90 percent.

- Between 1990 and 1992, the percentages of students in Grades 4 and 8 who met the Goals Panel's performance standard in mathematics increased, but the percentages are still low—about one out of every five students in Grade 4 and one out of every four students in Grade 8. Only one in four fourth grade students met the Goals Panel's performance standard in reading.

- The literacy of young adults (aged 21-25) has slipped since the mid-1980s. The average scores of young adults on such tasks as understanding and using information from a newspaper or a pamphlet, locating information in a chart or map, or using mathematics in everyday situations were slightly lower in 1992 than the average scores of young adults seven years earlier.

- While the incidence of students being victimized at school appears to have declined modestly in recent years, the levels are still unacceptably high. About one in five 8th graders reported being threatened with a weapon in 1992, while about one out of ten said that they carried a weapon with them onto the school grounds.

Before the adoption of the National Goals, the information we had on the performance of our educational system was fractured at best, woefully incomplete, and often misleading. Given this condition, it is no wonder that we supported for too long a system that was not living up to its potential nor allowing all our children to fulfill theirs. This third National Goals Report reflects the Panel's continued and sustained commitment to evaluate our performance fully and frankly. By documenting, without equivocation, how much more effort is needed from all Americans to ensure a world-class education for all, we are creating the conditions necessary for a significant renewal of American education.

CHAPTER 1

Setting Standards, Becoming the Best

1993

Setting Standards, Becoming the Best

Americans thrive on challenge. We settled a massive land, created a new form of government, developed into an economic leader, and landed on the moon—all because these were challenges that did not daunt us. In personal performances, too, we admire and reward those who set high standards for themselves and meet the challenge, as superior athletes, or exceptional pianists, or Nobel laureates in science and literature.

Four years ago the nation's Governors and the President challenged the American people again, this time to rebuild their education system so that it is among the best in the world. The six National Education Goals are the framework for this effort.

A scant century following Independence, the American public school system had evolved to attempt what no other country had done—to provide universal access to a free education. At the time, the public equated progress through the system with results. A de facto set of measurements documenting student progress emerged, consisting of high school diplomas, course credits, time spent on subjects, and nationally devised tests that assumed certain content had been covered and that such content was important. With diplomas in hand, young people, as well as their parents, employers, or college teachers, believed that they had been prepared adequately for the years ahead.

We now know that this is not true. Our schools are not organized around high standards for our students; at best, we have a minimum curriculum, reinforced by mediocre textbooks and teaching methods. Our low expectations for most students, growing out of the haphazard and disconnected system with which we had become much too comfortable, might have continued to be acceptable were it not for two very important realizations in the past decade. First, the standards we have in education do not match with the performance needs demanded by citizenship and employment in our society. Second, our minimal and fractured system of standards is significantly below that of countries with which we compete for leadership, economically and politically.

Consider today's demanding marketplace. Will a worker who punches the clock, stays the required amount of time, has only minimum skills, and applies a scant amount of effort be assured a paycheck? In essence, this has been the context of public education—minimal expectations and a guaranteed endorsement.

Now consider the dilemma of a businessperson dependent upon employees skilled in statistical measurement using new technologies. In the pool of young people the employer can draw from, only 35%, on the average, will have completed three years of a challenging mathematics sequence before leaving high school. Worse, the employer knows neither what knowledge they actually have nor if they can apply it in an advanced workplace. The employer's competitors around the world, however—in Korea, or Canada, or Spain or several other countries—recruit young workers who consistently outperform our students academically.

Business leaders and many policymakers in the United States believe that this situation is intolerable. Initial reforms attempted to shore up the existing structure—more high school graduation requirements, more seat time, teachers better prepared to teach academic subjects. With the adoption of the National Goals, the conversation has shifted to results—what is our education system accomplishing and how do we become the best? The answers to those questions lead directly to the need for nationwide standards. In order to be competitive and to get the most from our investment in education, those standards arguably must be set very high. Moreover, in order to be fair, to preserve our pluralistic society, and to protect our democracy, those standards must challenge all students.

The movement to nationwide standards is intended as a powerful lever for changing American education. It represents a new emphasis, one that focuses on quality learning for all children, not merely access for all. High performance is no longer considered an exception; exceptional performance is expected to become the norm.

The scope and nature of efforts to develop nationwide standards are unprecedented. For a national consensus to emerge, a host of concerns must be addressed, and a common vocabulary is essential. Certain questions need clear answers:

What is a Nationwide Education Standard?

Education standards are what all students should know and be able to do with their knowledge. Moreover, they imply that mastery should be at a very high level. Besides being rigorous, such standards must reflect what has been called "a thinking curriculum"—a curriculum that forces students to use their minds well, to solve problems, to think, and to reason. The term "world-class" is often used to describe standards that meet or exceed those of our strongest competitor nations.

Standards refer to both content and performance. *Content standards* describe the areas of knowledge all students should have access to if they are to become the productive and fully educated citizens of tomorrow. The content standards should be challenging and focused, reflecting the most important ideas and skills needed. Although they are currently being developed separately in different academic subject areas (mathematics, history, the arts, etc.), content standards should ultimately enhance efforts to link specific ideas and skills from different subjects together in meaningful and useful ways.

But exposure to knowledge alone does not guarantee learning at high levels. We also need to have assurance that students have more than just a cursory knowledge of content, and that is the role of *performance standards*. Basically, performance standards should demonstrate how good is good enough. Performance is usually evaluated in terms of successive levels of mastery. Writing out the answers to simple questions about a passage from literature might be considered a novice level. Elaborating on the meaning of the passage might indicate a higher level of learning. Comparing the passage to another source and analyzing the differences might be even still higher. The essential point is that students must show how *well* they have learned the content. Nationally, we will need to know what percentages of students are reaching what levels of performance on content so that the public will know how the education system is performing.

By having such standards, we turn the traditional mode of schooling around. In the past, how students were taught was mostly fixed, and the results varied—some students failed, most learned at least some of what they were taught. To enable all students to learn at high levels, varied instructional strategies are needed to challenge them. The standards are fixed, but the means of reaching them are varied.

The standards being discussed and developed are unconventional for American schools today because they reflect deliberately higher achievement. However, they also are realistic. In truth, we just have not asked as much of students and schools in the past as they are capable of performing. For example, only one of 11 eighth graders understands measurement or geometry concepts, compared to two of five students in Korea. Only one of 15 American high school seniors can solve problems involving Algebra, and fewer than five percent can interpret historical information and ideas, not because they cannot do these things but because so few are exposed to high content instruction.

Get Specific. What Are Some Examples of What All Students Should Know and Be Able To Do?

Suppose we are watching a fourth grader use numbers. In a typical mathematics classroom today, this probably means simple arithmetic, adding and averaging similar columns of figures—dull stuff. However, our student has been learning mathematics since kindergarten under the standards developed by the National Council of Teachers of Mathematics. So, she knows how to analyze sets of data, draw a line plot, and decide on an analytic approach. She takes two sets of data collected on samples of bears—grizzlies and black bears. She analyzes their sex and their weight and plots the results of her work on a graph. Is she skilled in arithmetic? Certainly! Can she apply her knowledge, and is she eager to do so? You bet! Is she bored or intimidated by math? No! Is she up to high standards work? Yes!

In a middle-grades science classroom, we might watch a small group of students learn about the common properties of matter, such as the particle model, and the fact that a total mass of materials involved in any observed change remains the same. They have an ice cube in a jar and record what changed and did not change as the ice melted—color, wetness, temperature, mass, shape, volume and size. They work to identify one factor they regard as critical to the melting process and express it as a question, which they proceed to investigate. They then draw conclusions and share and discuss them with the whole class. These students have used the scientific method, solved problems as a group, analyzed data, expressed their findings in writing, and defended their analysis in discussion. Regrettably, only about one-fourth of eighth graders in a typical science class in the present system regularly write up science experiments, according to the National Assessment of Educational Progress.

Now we are looking over the shoulders of graduating seniors taking a more conventional test in

American history, but at an advanced level. They have three hours to answer four questions which they may select from several categories. Let's pick the general category. One of the questions asks students to analyze whether government regulation did more harm than good to the American economy between 1880 - 1920. Another has them explain why evangelical protestantism has been an important force in American life and what effects it had in the period 1800-1880 or 1900-1960. Another asks them to offer evidence for the existence and influence of a "military-industrial complex" in the conduct of American foreign policy from 1954 to 1974.

These questions, taken from an actual test in England, illustrate the level and depth that other countries expect their students to know. The challenge to these students does not stop at mastering historical facts. They must also integrate this knowledge far beyond traditional rote memorization.

Content and performance standards set high expectations for children. They also challenge educators and parents to become effective teachers. And they set all of us on a path toward becoming active, lifelong learners.

How Are Nationwide Standards Being Set?

Three principles guide what is happening in setting high nationwide content standards.

One is that their use is entirely voluntary. The standards are *not* a centrally imposed national curriculum, but rather a resource to help schools, districts, and states anchor their curriculum, instruction, assessment, and teacher preparation efforts. They are reference points for public understanding, providing a common focal point for school people, parents, and other interested citizens to agree on what is important and to work together to improve education results for all.

A second element is that nationwide standards are not fixed forever. They are intended to be continually discussed and improved. The development and distribution of the initial content and performance standards in a subject should only be the beginning.

The third important element is the truly inclusive process that is being used to reach a consensus on nationwide standards. Every possible interest is involved. At the core are the real experts—the master teachers of history, civics, geography, science, English and language arts, foreign languages, and the arts. Their partners are researchers and academic experts. A lengthy process of feedback and revising follows the initial development. This is the process used by the National Council of Teachers of Mathematics (NCTM) in developing the standards it announced four years ago. The process has become a model for other subject areas.

Separate but related individual projects focus on content standards or address particular aspects of higher performance. For example, more than one-half of the nation's students are in states or school districts involved with the New Standards Project, a foundation-funded effort to arrive at high standards through assessments which rely on students' abilities to reason and solve real-world problems. The 300 schools in the Coalition of Essential Schools are developing a core of learning and new ways for students to display what they have learned.

Many state-instigated efforts are changing the education of students from one based on time spent in class to one based on challenging content. Maine's Common Core of Learning, New Mexico's Standards for Excellence, Michigan's Partnership for New Education, and the curriculum frameworks developed in California are examples of where research and best-practice knowledge are coming together to stimulate higher levels of learning.

Some argue that those closest to students, the teachers, are those most capable of making content decisions for their classrooms. On the other hand, some believe that a uniform national curriculum is the only way to ensure progress. In a uniquely American way, we have opted for a balanced approach, with local classroom decisions guided by a common core framework that reflects a nationwide consensus about what is most important for students to learn.

We do not want to be stifled by a national curriculum. Nor do we want a hit-or-miss education system. We want everyone to be working from their own unique context toward the common goal of providing challenging content for all students.

If All of These Efforts Are Already Taking Place, What is There Left To Do?

Despite the many efforts under way to set new standards, most students in this country are still taught unchallenging curriculum and are still not aware of what they should be aiming for in their studies. In addition, parents, teachers, and the broader general public remain largely ignorant about what they should expect students to know and do as a result of their education. Without a process to reinforce and build on the power of high expectations in the public's

mind, even what has been accomplished so far might prove to be short-lived.

All of the individual efforts under way to develop high-quality content and performance standards need to become part of a nationwide commitment by *all* citizens to hold *all* students to high standards. These in turn can become the foundation for locally determined changes in assessment, teacher preparation, curriculum, classroom organization, and other policies and practices that must occur for the standards to be met. Ultimately, it is only by local communities adopting standards-based systemic approaches to reform that we can obtain the fundamental changes in our schools necessary for achieving the National Education Goals.

At the moment, the prospects are unprecedented for renewing public education throughout the country. The public demand, the professional commitment, the research knowledge available about how children learn best, and the growing recognition of the interrelatedness of this country's human investment with what is happening around the world provide excellent conditions for change. We must build on these possibilities.

How Can We Assure That All Students Have Equal Opportunities to Meet The New Standards?

American society is morally committed to equal opportunity. For too many students, disastrously low expectations compound disparities in the quality of schools. These students face a dim future. Taxpayers and voters, however, are unlikely to increase resources for schools without a conviction that dramatic improvements in learning will result. High standards for all is a way to say that we will refuse to settle for low levels of learning for any student.

The experiences of the many initiatives under way to create that high quality are almost unanimous about one important result. The process of being included in the development of high standards and of good assessment systems linked with the content becomes a process of renewal for teachers and administrators. With new skills, heightened awareness of what challenging content is, and experiences of seeing how changes in their instruction produce good changes in students, their expectations rise—for all students. Positive attitudes by students and families toward higher standards are vital, too, but they go in tandem with changes in classroom practice.

Certainly, assuring equal opportunities depends on a number of additional factors. Having a nationwide consensus on high standards, however, is essential if we are to end the invidious consequence of our present system—one set of standards for the advantaged, another for the disadvantaged.

What Are The Next Steps?

By the end of 1994, most of the projects working on academic standards will have completed at least a first draft of their recommendations.

The National Education Goals Panel and proposed National Education Standards and Improvement Council will work together to assure quality and to certify the results of the standards-setting process, with the former focusing on overall policy and the latter providing technical expertise. The Goals Panel already has appointed a Standards Review Technical Planning Group to recommend criteria to be used to review and certify the upcoming voluntary nationwide content standards.

These steps are the first part of the systemic reform process envisioned by the National Goals. They say, in effect, that the nation is committed to the long-haul process of building a world-class education system.

Conclusion

All students will have opportunities to learn at higher levels when American society acts on its belief that this result is important now and in the future, it is fair, and it is possible.

High standards are the very heart of education reform in this country. They are reference points to be used by states and localities nationwide in developing renewed education systems that will be high-performing, equitable for all, and accountable. Think what reforms would look like without standards, without an agreement on what we expect from our students, and without a commitment that all students will be challenged to work with stimulating content, think critically about it, or use it in meaningful ways. The search for high standards already has invigorated the teaching profession, brought researchers and practitioners together in thoughtful ways, and begun to fashion education policymaking into a more effective role.

In essence, the emerging consensus on standards will drive systemic education reform. New nationwide standards will finally allow us as a people to agree on where we want to be. Standards also will allow American education to begin to meet the challenge set four years ago and move it toward its potential and toward the results American society wants for all its children.

CHAPTER 2

Indicators for the 1993 Report: Measuring National Progress Toward the Goals

1993

GOAL 1

Readiness for School

1993

GOAL 1

Readiness for School

Introduction

Infants born in the coming year will enter the first grade in the year 2000. Will the nation be able to say that these children are the most ready to learn of any group of six-year-olds in our history? On the basis of the dimensions of school readiness that the National Education Goals Panel has identified (physical well-being and motor development, social and emotional development, approaches toward learning, language usage, and cognition and general knowledge), we have much to do. The "we" means all of us—parents, health and education personnel, policymakers, and others involved with institutions that support infants and young children.

The dimensions of readiness tell us that being ready to learn means more than simply having rudimentary academic skills. In fact, new data reported in this 1993 Goals Report indicate that very few kindergarten teachers believe that children must know how to count or recite the alphabet before entering their classes. The characteristics that kindergarten teachers believe are most important for school readiness are those that begin in infancy, such as the ability to communicate, curiosity, and sociability.

Even earlier, mothers who have received prenatal care throughout a pregnancy, avoided drugs and alcohol, and made sure that their babies started life with proper medical care and nutrition are much more likely to have healthy infants who will grow into young children ready to learn when they enter school. We now know that an alarming number of infants in this country are born with one or more health risks.

We also know that a large number of the very young do not enjoy a childhood most adults would consider desirable. Many are not receiving the kind of support that enriches childhood. Only about one-half of three- to five-year-olds are read to every day by their parents. Less than 40% of two-year-olds receive complete immunizations. Poor children in particular (constituting about one-third of those enrolling in school each year) are less likely than others to have a regular source of health care when they are sick, and to be enrolled in preschool. The gaps in care between poor children and those in wealthier families, identified in earlier Goals reports, remain large.

Children who start school with health problems, limited ability to communicate, or a lack of curiosity are at greater risk of subsequent school failure than other children. Helping these children after they enter school is a costly remedy for failing to nurture them when they were very young. However, assuring that every child is ready to learn is important beyond the money that would be saved. A commitment to meet this Goal would bring together families, communities, businesses, schools, and other support resources for the purpose of giving all children the opportunities to become effective, competent learners. By sharing this common mission to nurture America's youngest citizens, we become a stronger society. And young children growing up in such a society, where childhood is protected and enriched, will be ready, even eager, to learn.

GOAL 1 Readiness for School

By the year 2000, all children in America will start school ready to learn.

Objectives

- All disadvantaged and disabled children will have access to high quality and developmentally appropriate preschool programs that help prepare children for school.
- Every parent in America will be a child's first teacher and devote time each day helping his or her preschool child learn; parents will have access to the training and support they need.
- Children will receive the nutrition and health care needed to arrive at school with healthy minds and bodies, and the number of low-birthweight babies will be significantly reduced through enhanced prenatal health systems.

GOAL 1

Readiness for School

What we have learned since the 1992 Report

The 1993 Goals Report updates information presented last year on prenatal care and birthweight, family-child activities, and enrollment in preschool programs. More recent data are also presented on such health indicators as routine care and immunizations, while additional important information is presented on health insurance and parent and teacher perceptions of school readiness.

Direct Measures of the Goal

School Readiness

Although the Panel does not yet have a direct measure of this Goal, activities have taken place within the past year which have brought us closer to the development of a sample-based measure. Specifically, a report has been prepared which comprehensively defines the five dimensions of readiness which the Panel previously identified: physical well-being and motor development, social and emotional development, approaches toward learning, language usage, and cognition and general knowledge. The Goals Panel has worked with the National Center for Education Statistics on a contract to conduct a longitudinal study of early childhood consistent with the five dimensions of children's readiness.

Direct Measures of the Objectives

Children's Health and Nutrition

In 1990, nearly one-half of all infants born in the United States began life with one or more factors (such as tobacco or alcohol use by their pregnant mothers) that are considered risky to their long-term educational development. (See Exhibit 5.)

In 1991, only 37% of all 2-year-olds had been fully immunized for major childhood diseases. (See Exhibit 6.)

Nearly nine out of ten 3- to 5-year-olds have visited a doctor during the past year for routine health care; about half have visited a dentist. (See Exhibit 7.)

Nearly all 3- to 5-year-olds have a regular source of health care for routine care. However, fewer children have a regular source of care when they are sick, especially those in low-income families. (See Exhibit 8.)

Family-Child Activities

About half of all preschoolers are read to daily by their parents or other family members. Less than half are told stories several times per week or are taken to visit a library once per month. Between 1991 and 1993, the percentage of preschoolers whose parents engaged in literacy activities with them on a regular basis increased. (See Exhibit 10.)

GOAL 1

Readiness for School

Nearly nine out of ten preschoolers participate in errands or family chores with their parents regularly. However, fewer participate regularly in other types of family activities that can help them learn, such as attending events sponsored by community or religious groups (50%), discussing family history or ethnic heritage (43%), or going to plays, concerts, live shows, art galleries, museums, historical sites, zoos, or aquariums (42%). (See Exhibit 12.)

Preschool Programs

Less than half of all 3- to 5-year-olds from families with incomes of $30,000 or less are enrolled in preschool. Fifty-six percent of all 3- to 5-year-olds with disabilities attend preschool programs. (See Exhibits 13 and 15.)

Additional Important Information

Parent and Teacher Perceptions of School Readiness

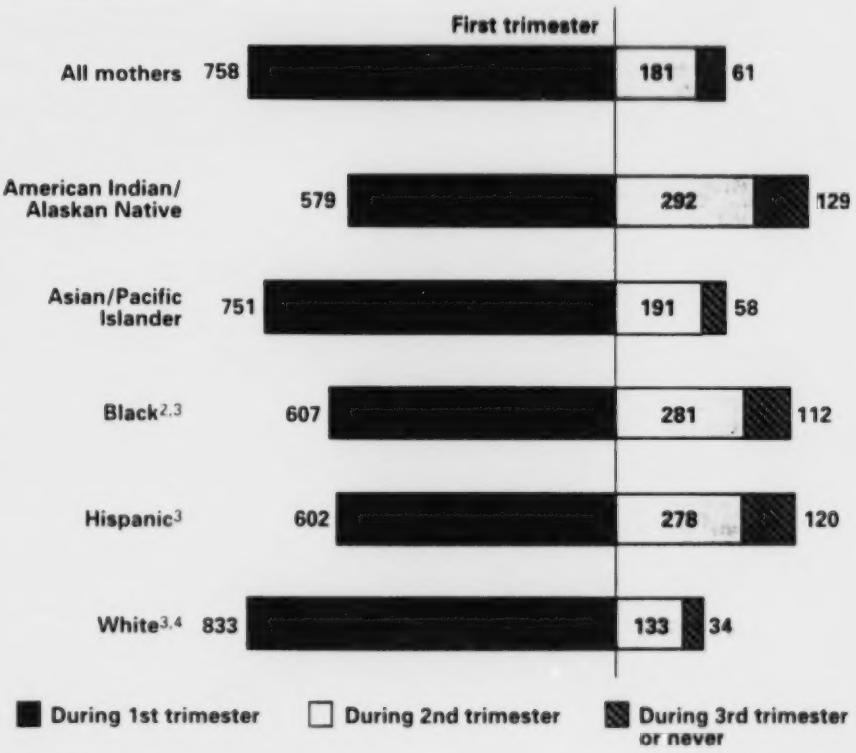
Parents and teachers agree that children's general ability to communicate and to approach new activities enthusiastically are important for school readiness. Most parents also feel that specific skills and knowledge of letters or numbers are important, but teachers are far less likely to believe that children must know these things before entering kindergarten. (See Exhibit 19.)

What we still need to know

We still need direct, sample-based indicators of school readiness derived from the five dimensions of readiness identified and endorsed by the Panel. Baseline indicators incorporating these dimensions should be forthcoming later in the decade from the National Center for Education Statistics' longitudinal study of early childhood. Over the coming year, the Panel will continue to collaborate with the National Center for Education Statistics in this assessment effort as well as act to further the development of a full-fledged Early Childhood Assessment System.

Exhibit 1
Prenatal Care

Point at which mothers first began prenatal care[1] in 1990; number per 1,000



[1] First visit for health care services during pregnancy.
[2] Excludes Blacks of Hispanic origin.
[3] Data shown only for states with an Hispanic-origin item on their birth certificates. See technical notes in Appendix A.
[4] Excludes Whites of Hispanic origin.

In 1990, 758 out of every 1,000 mothers (76%) began prenatal care during their first trimester of pregnancy; 181 per 1,000 (18%) did not begin prenatal care until their second trimester; and 61 per 1,000 (6%) did not begin prenatal care until their third trimester or never received prenatal care.

The number of mothers who began prenatal care during their first trimester of pregnancy remained relatively unchanged between 1988 and 1990.

Change Since 1988

Point at which mothers first began prenatal care;[1] number per 1,000:

	During 1st trimester		During 2nd trimester		During 3rd trimester or never	
	1988	1990	1988	1990	1988	1990
All	759	758	180	181	61	61
American Indian/ Alaskan Native	581	579	287	292	132	129
Asian/Pacific Islander	755	751	186	191	59	58
Black[2]	604	607	286	281	110	112
Hispanic[3]	613	602	266	278	121	120
White[4]	818	833	141	133	41	34

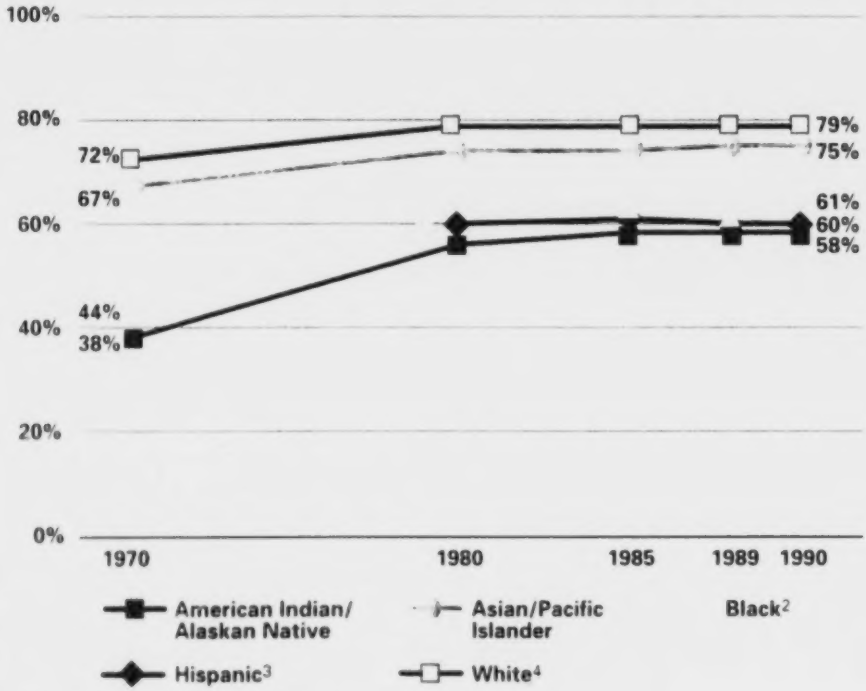
[1] First visit for health care services during pregnancy.
[2] Excludes Blacks of Hispanic origin.
[3] Data shown only for states with an Hispanic-origin item on their birth certificates. See technical notes in Appendix A.
[4] Excludes Whites of Hispanic origin.

Source: National Center for Health Statistics, 1993
This exhibit updates information presented in the 1992 Goals Report.

Exhibit 2

Trends in Prenatal Care

Percentage of mothers who began prenatal care[1] during their first trimester of pregnancy, 1970 to 1990



[1] First visit for health care services during pregnancy.
[2] Includes Blacks of Hispanic origin.
[3] No 1970 data available for Hispanics. See technical notes in Appendix A.
[4] Includes Whites of Hispanic origin.

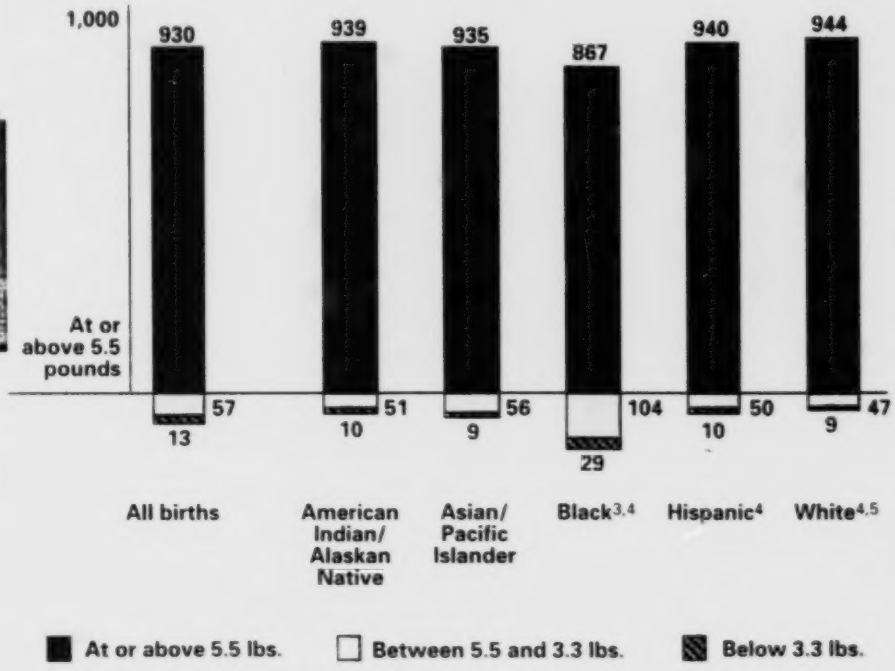
The percentage of mothers who began prenatal care during their first trimester of pregnancy increased substantially in the late 1970s, but has leveled off since 1980.

Source: National Center for Health Statistics, 1992 and 1993.
This exhibit updates information presented in the 1992 Goals Report.

Exhibit 3
Birthweight

Number per 1,000 births above and below 5.5[1] and 3.3[2] pounds, 1990

In 1990, 930 out of every 1,000 infants born in the United States (93%) were above the standard for low birthweight. Seventy out of every 1,000 (7%) were below the standard.



[1] Below 5.5 pounds is defined as Low Birthweight.
[2] Below 3.3 pounds is defined as Very Low Birthweight.
[3] Excludes Blacks of Hispanic origin.
[4] Data shown only for states with an Hispanic-origin item on their birth certificates. See technical notes in Appendix A.
[5] Excludes Whites of Hispanic origin.

The numbers of infants born above and below the standard for low birthweight remained relatively unchanged between 1988 and 1990.

Change Since 1988

Number per 1,000 births above and below 5.5[1] and 3.3[2] pounds:

	At or above 5.5 pounds		Between 3.3 and 5.5 pounds		Below 3.3 pounds	
	1988	1990	1988	1990	1988	1990
All	931	930	57	57	12	13
American Indian/ Alaskan Native	940	939	50	51	10	10
Asian/Pacific Islander	937	935	55	56	8	9
Black[3]	867	867	105	104	28	29
Hispanic[4]	938	940	52	50	10	10
White[5]	944	944	47	47	9	9

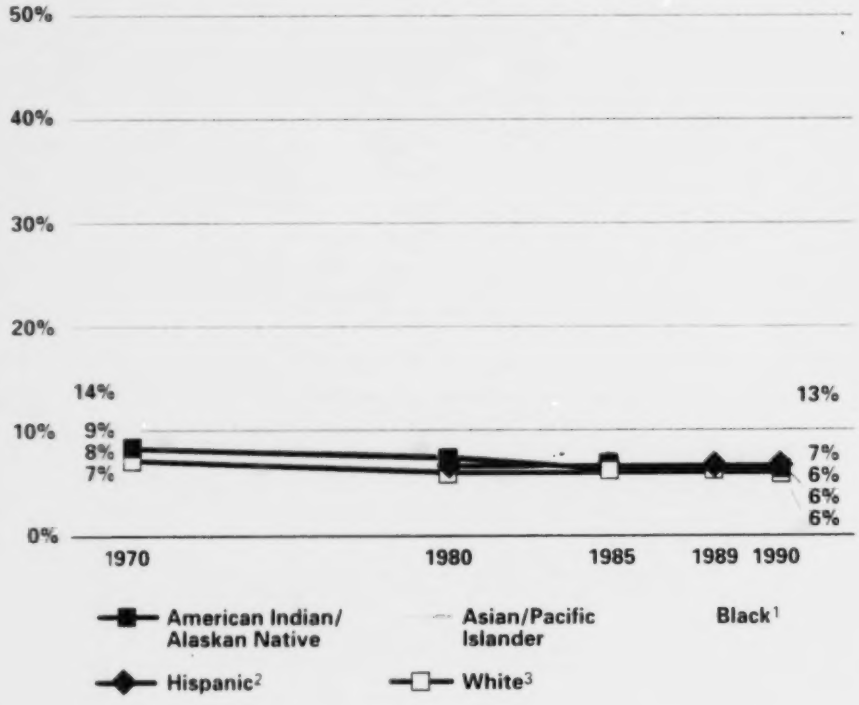
[1] Below 5.5 pounds is defined as Low Birthweight.
[2] Below 3.3 pounds is defined as Very Low Birthweight.
[3] Excludes Blacks of Hispanic origin.
[4] Data shown only for states with an Hispanic-origin item on their birth certificates. See technical notes in Appendix A.
[5] Excludes Whites of Hispanic origin.

Source: National Center for Health Statistics, 1993
This exhibit updates information presented in the 1992 Goals Report.

Exhibit 4

Birthweight Trends

Percentage of live births below the standard for low birthweight (5.5 lbs.), 1970 to 1990



[1] Includes Blacks of Hispanic origin.
[2] No 1970 data available for Hispanics. See technical notes in Appendix A.
[3] Includes Whites of Hispanic origin.

Between 1970 and 1990, the percentage of babies born below the standard for low birthweight decreased slightly for all groups. However, Black infants remain about twice as likely as those from other racial/ethnic groups to be born at low birthweight.

Source: National Center for Health Statistics, 1992 and 1993.
This exhibit updates information presented in the 1992 Goals Report.

School success is partly determined by conditions that affect children's health and development long before they enter school. In 1990, nearly one-half of all infants born in the United States began life with one or more factors (such as tobacco or alcohol use by their pregnant mothers) that are considered risky to their long-term educational development.

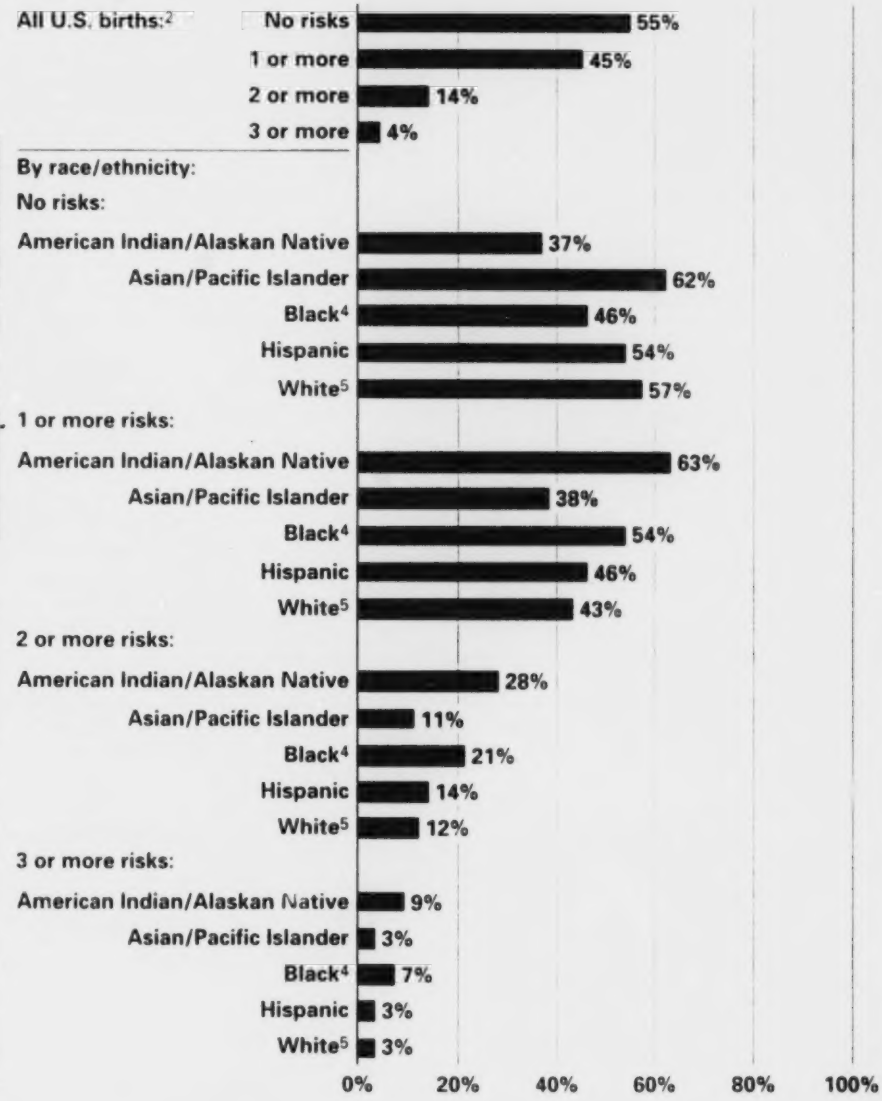
At-Birth Health Risks

- Late (third trimester) or no prenatal care
- Low maternal weight gain (less than 21 pounds)
- Three or more older siblings
- Mother smoked during pregnancy
- Mother drank alcohol during pregnancy
- Closely spaced birth (within 18 months of a previous birth)

Exhibit 5

Children's Health Index

Percentage[1] of infants born in the U.S.[2] with 1 or more health risks,[3] 1990



[1] Percentages are based on the number of births used to calculate the risk index, not the actual number of births. Birth records that were missing three or more pieces of information needed to calculate the index were excluded from the calculation. See technical notes in Appendix A.

[2] Five states (California, Indiana, Oklahoma, New York, and South Dakota) do not collect information on all six risks on the state birth certificate. These states are not included in the U.S. total. New Hampshire is included in the U.S. total, but not in the race/ethnicity totals because New Hampshire does not collect information on Hispanic origin.

[3] Risks are late (in third trimester) or no prenatal care, low maternal weight gain (less than 21 pounds), three or more older siblings, mother smoked during pregnancy, mother drank alcohol during pregnancy, or closely spaced birth (within 18 months of a previous birth).

[4] Excludes Blacks of Hispanic origin.

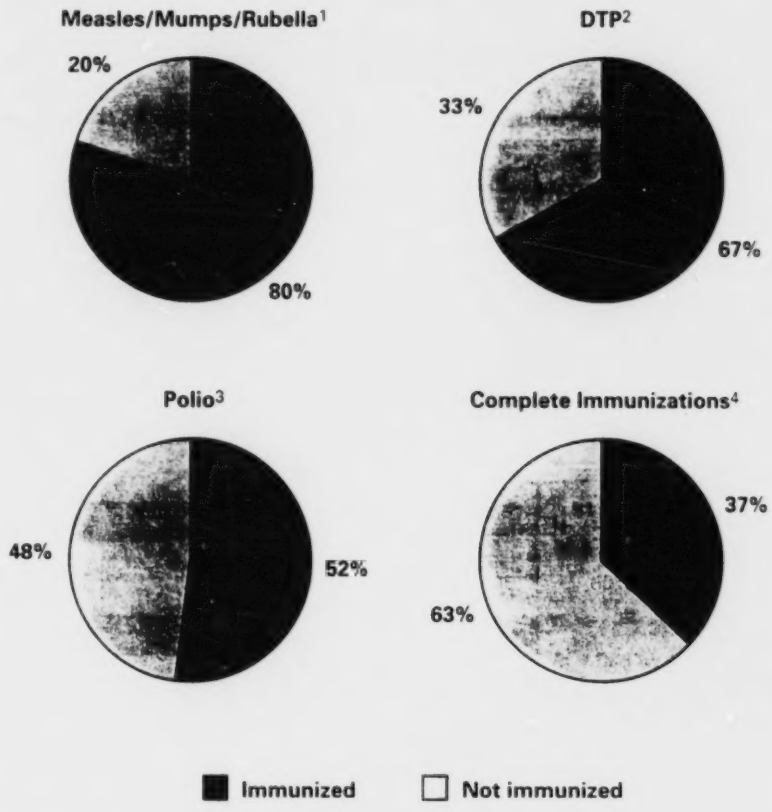
[5] Excludes Whites of Hispanic origin.

Source: National Center for Health Statistics and Westat, Inc., 1993

Exhibit 6

Immunizations

Percentage of 2-year-olds who completed their basic immunization series for selected diseases, 1991



In 1991, only 37% of all 2-year-olds had been fully immunized for major childhood diseases.

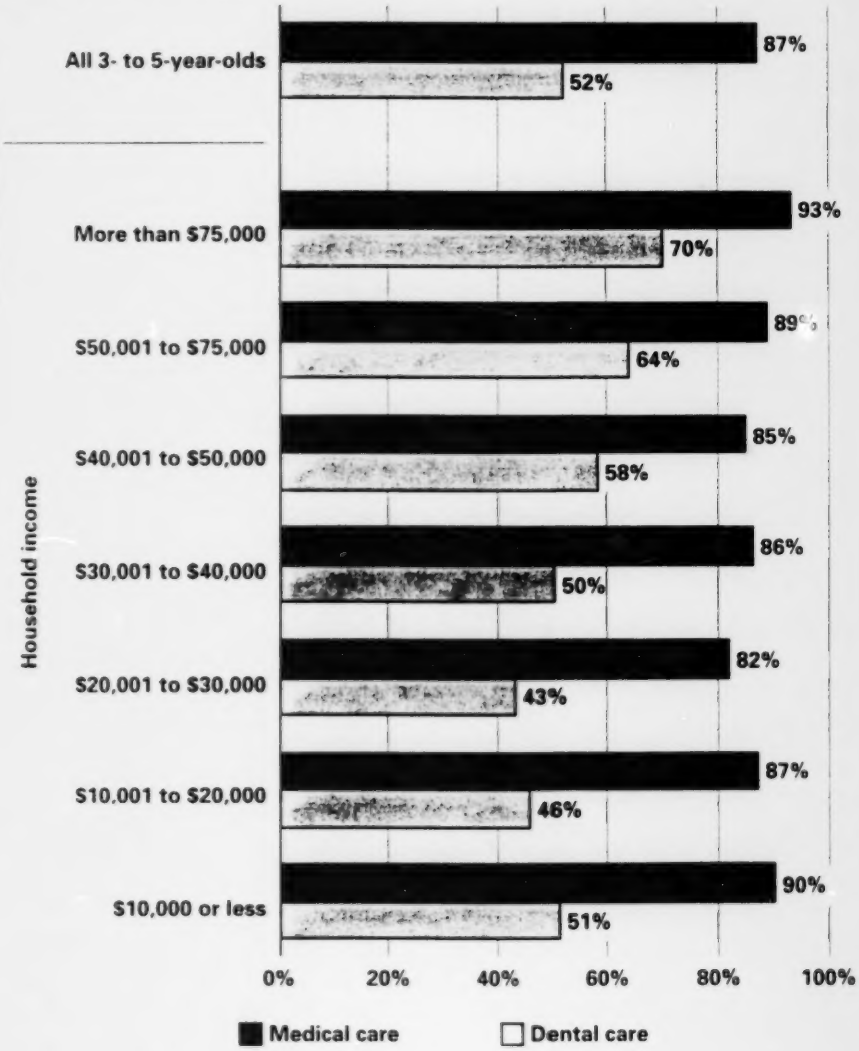
[1] One vaccination for measles or for measles/mumps/rubella.
[2] Diphtheria-tetanus-pertussis. Three or more doses of vaccine.
[3] Three or more doses of vaccine.
[4] Four doses of diphtheria-tetanus-pertussis vaccine, three doses of polio vaccine, and one dose of measles or measles/mumps/rubella vaccine.

Source: National Center for Health Statistics and Centers for Disease Control, 1993
This exhibit replaces information presented in the 1992 Goals Report with new data from a different source.

Exhibit 7

Medical and Dental Care

Percentage of 3- to 5-year-olds[1] who received medical[2] and dental[3] care within the previous 12 months, 1993



Nearly nine out of ten 3- to 5-year-olds have visited a doctor during the past year for routine health care; about half have visited a dentist.

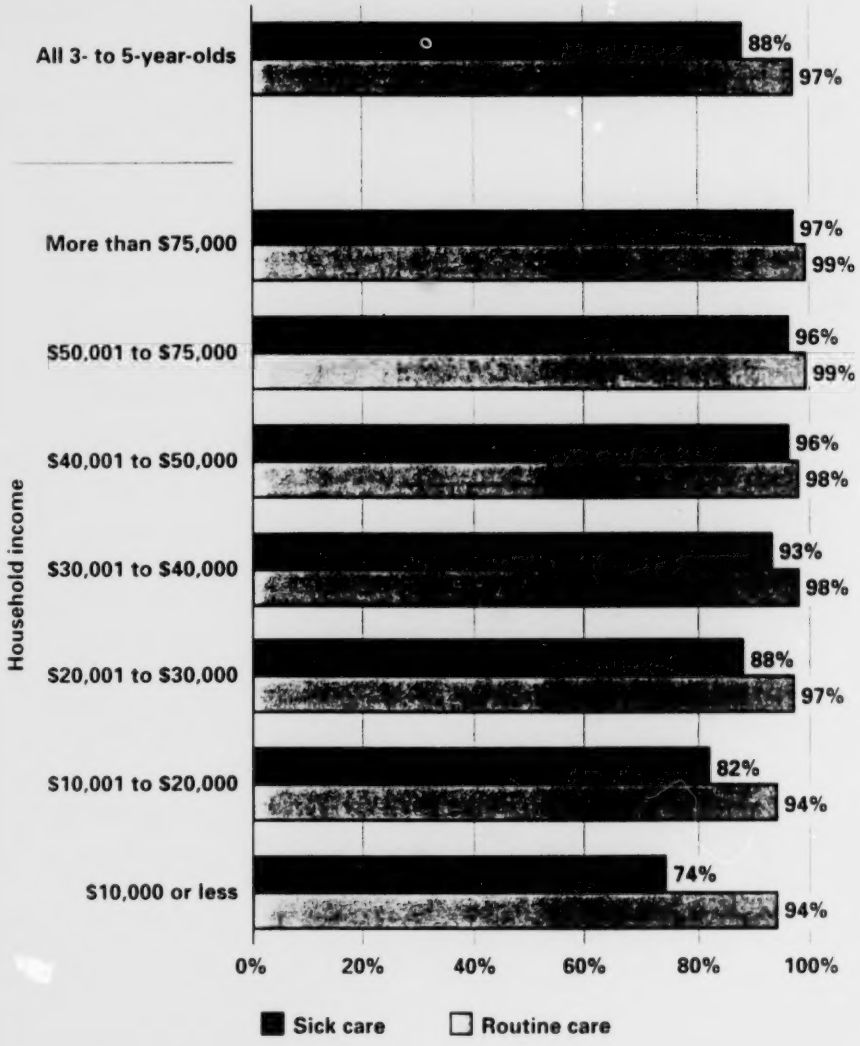
[1] Excluding those enrolled in kindergarten.
[2] Includes visits for routine checkups and immunizations.
[3] Includes visits to dentists and dental hygienists.

Source: National Center for Education Statistics and Westat, Inc., 1993.
This exhibit replaces information presented in the 1992 Goals Report with new data from a different source.

Exhibit 8

Continuity of Health Care

Percentage of 3- to 5-year-olds[1] who had a regular source[2] of health care for sick care and routine care, 1993



Nearly all 3- to 5-year-olds have a regular source of health care for routine care. However, fewer children have a regular source of care when they are sick, especially those in low-income families.

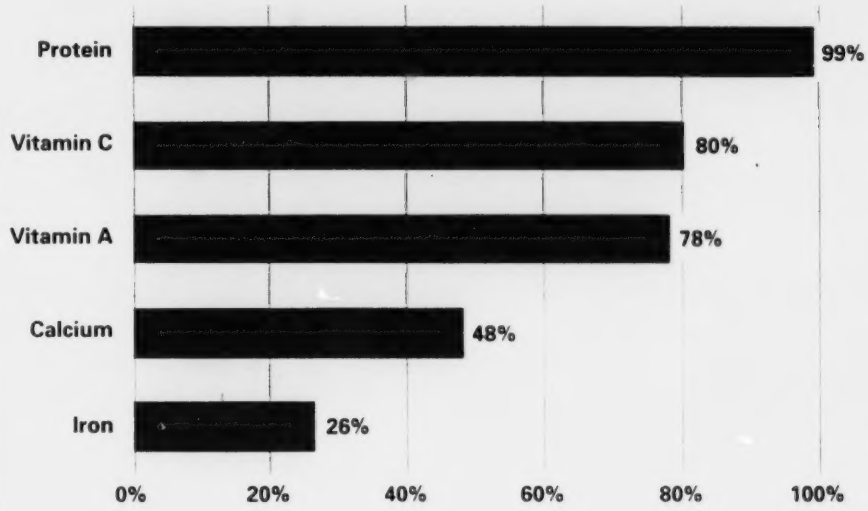
[1] Excluding those enrolled in kindergarten.

[2] Defined as a particular clinic, health center, hospital, doctor's office, or "other place" child usually goes to for care. Hospital emergency rooms are not included as a regular source of health care for sick care, but may be included for routine care.

Source: National Center for Education Statistics and Westat, Inc., 1993

This exhibit replaces information presented in the 1992 Goals Report with new data from a different source.

Exhibit 9
Child Nutrition
Percentage of 1- to 5-year-olds who received the minimum RDA[1] of various nutrients, 1986



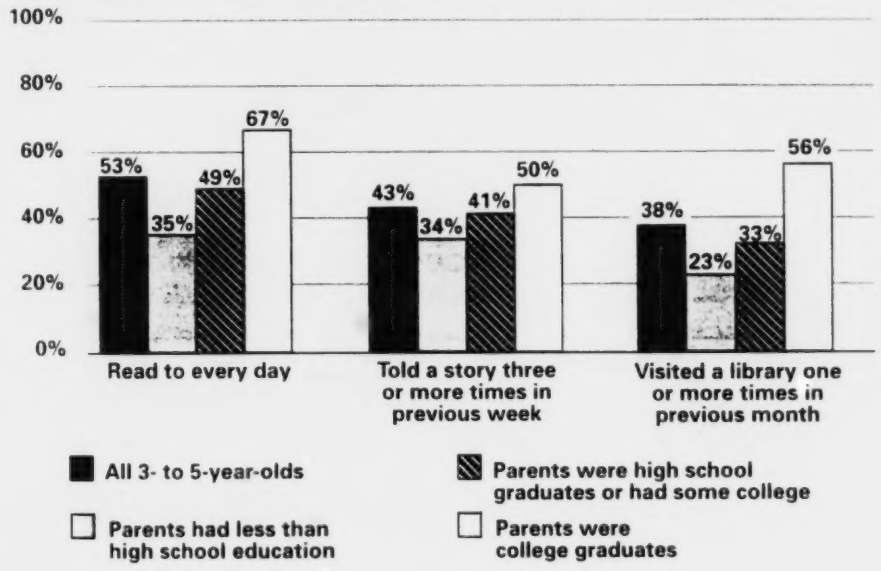
[1] Recommended Dietary Allowance.

In 1986, nearly all preschool children received adequate amounts of protein in their diets. However, only eight out of ten received the recommended amounts of Vitamins A and C, only about half received the recommended amounts of calcium, and only about one-fourth received the recommended amounts of iron.

Source: Human Nutrition Information Service, 1988.
This exhibit repeats information presented in the 1992 Goals Report.

Exhibit 10
Family-Child Literacy Activities

Percentage of 3- to 5-year-olds[1] whose parents[2] engage in literacy activities with them regularly, 1993



[1] Excluding those enrolled in kindergarten.
[2] Parent or another family member.

About half of all preschoolers are read to daily by parents or other family members. Less than half are told stories several times per week or are taken to visit a library once per month.

Change Since 1991[1]

Percentage of 3- to 5-year-olds[2] whose parents[3] engage in literacy activities[4] with them regularly:

	Told a story three or more times in previous week		Visited a library one or more times in previous month	
	1991	1993	1991	1993
All	39%	43% *	35%	38% *
Parents had less than high school education	32%	34%	18%	23%
Parents were high school graduates or had some college	38%	41% *	30%	33%
Parents were college graduates	42%	50% *	53%	56%

[1] Interpret with caution. Data are from a representative national survey. The changes shown could be attributable to sampling error. In cases noted with an asterisk, we are confident that change has occurred.
[2] Excluding those enrolled in kindergarten.
[3] Parent or another family member.
[4] Change since 1991 in the percentage of preschoolers whose parents read to them every day could not be determined because of changes in the wording of the survey question.

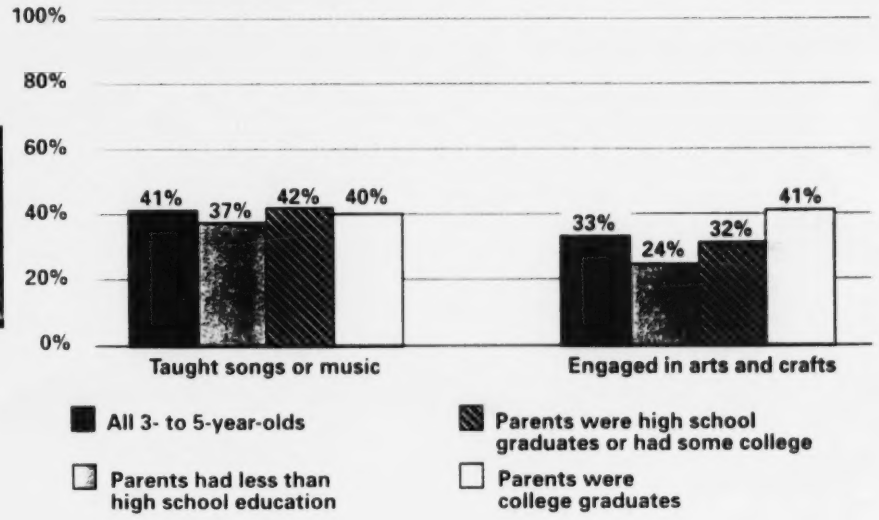
During the past two years, the percentage of 3- to 5-year-olds whose parents engaged in literacy activities with them regularly has increased.

Source: National Center for Education Statistics and Westat, Inc., 1991, 1992, and 1993
This exhibit updates information presented in the 1992 Goals Report.

Exhibit 11
Family-Child Arts Activities

Percentage of 3- to 5-year-olds[1] whose parents[2] engage in arts activities with them regularly,[3] 1993

About four out of ten 3- to 5-year-olds are taught songs or music by their parents regularly. One-third engage in arts and crafts with their parents on a regular basis.



[1] Excluding those enrolled in kindergarten.
[2] Parent or another family member.
[3] Three or more times in the previous week.

Since 1991, the percentage of 3- to 5-year-olds who engaged in music or arts and crafts with their parents on a regular basis remained about the same.

Change Since 1991[1]

Percentage of 3- to 5-year-olds[2] whose parents[3] engage in arts activities with them regularly.[4]

	Taught songs or music		Engaged in arts and crafts	
	1991	1993	1991	1993
All	39%	41%	35%	33%
Parents had less than high school education	38%	37%	34%	24% *
Parents were high school graduates or had some college	39%	42% *	31%	32%
Parents were college graduates	41%	40%	42%	41%

[1] Interpret with caution. Data are from a representative national survey. The changes shown could be attributable to sampling error. In cases noted with an asterisk, we are confident that change has occurred.
[2] Excluding those enrolled in kindergarten.
[3] Parent or another family member.
[4] Three or more times in the previous week.

Source: National Center for Education Statistics and Westat, Inc., 1991, 1992, and 1993
This exhibit updates information presented in the 1992 Goals Report.

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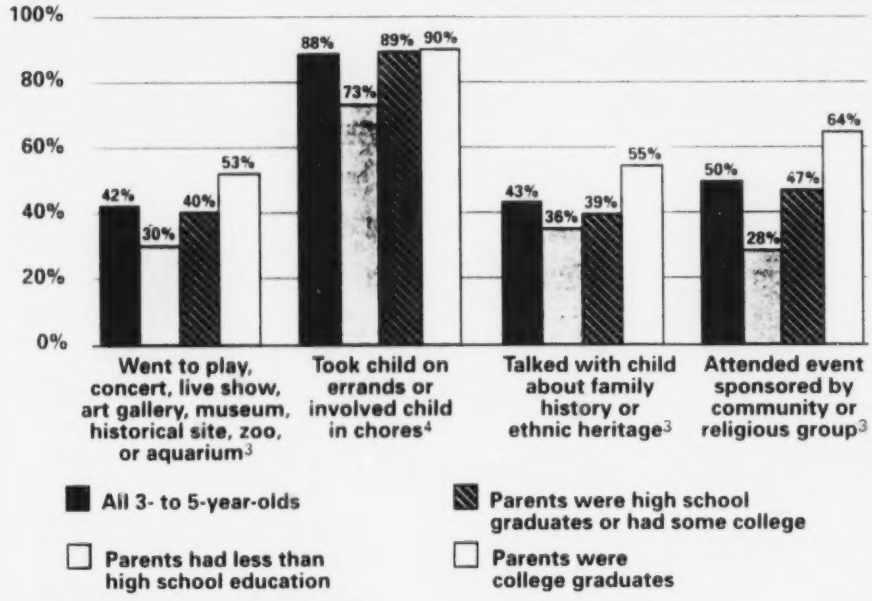
Exhibit 12
Family-Child Learning Opportunities

Percentage of 3- to 5-year-olds[1] whose parents[2] regularly engage them in opportunities to help them learn, 1993



[1] Excluding those enrolled in kindergarten.
[2] Parent or another family member.
[3] One or more times in the previous month.
[4] Three or more times in the previous week.

Nearly nine out of ten 3- to 5-year-olds participate in errands or family chores with their parents regularly. However, fewer participate regularly in other types of family activities that can help them learn, such as attending events sponsored by community or religious groups (50%), discussing their family history or ethnic heritage (43%), or going to plays, concerts, live shows, art galleries, museums, historical sites, zoos, or aquariums (42%).

Change Since 1991[1]

Percentage of 3- to 5-year-olds[2] whose parents[3] regularly engage them in opportunities to help them learn:[4]

	Went to play, concert, live show, art gallery, museum, historical site, zoo, or aquarium[5]	
	1991	1993
All	48%	42% *
Parents had less than high school education	38%	30%
Parents were high school graduates or had some college	46%	40% *
Parents were college graduates	56%	53%

[1] Interpret with caution. Data are from a representative national survey. The changes shown could be attributable to sampling error. In cases noted with an asterisk, we are confident that change has occurred.
[2] Excluding those enrolled in kindergarten.
[3] Parent or another family member.
[4] Data were not collected for family-child learning opportunities other than parent-child outings prior to 1993.
[5] One or more times in the previous month.

Between 1991 and 1993, fewer 3- to 5-year-olds were regularly taken by their parents on outings to plays, concerts, live shows, art galleries, museums, historical sites, zoos, or aquariums.

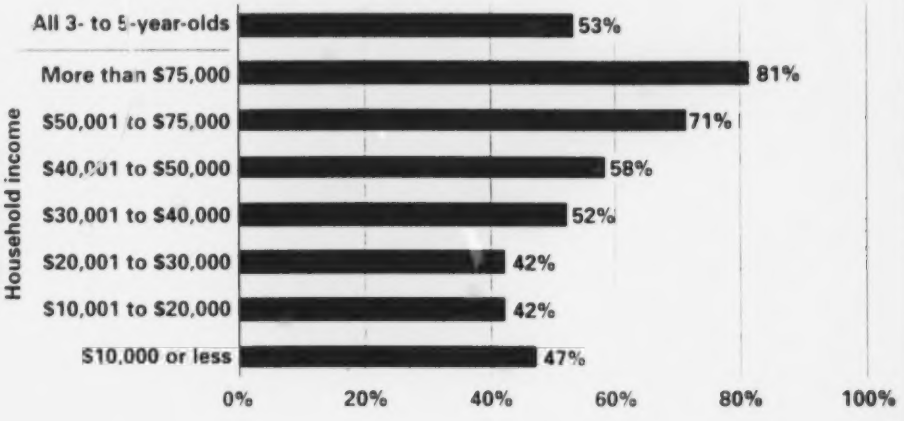
Source: National Center for Education Statistics and Westat, Inc., 1991, 1992, and 1993
This exhibit updates information on parent-child outings presented in the 1992 Goals Report, and presents new information on other types of family-child learning opportunities.

Less than half of all 3- to 5-year-olds from families with incomes of $30,000 or less are enrolled in preschool.

Exhibit 13

Preschool Participation

Percentage of 3- to 5-year-olds[1] enrolled in preschool,[2] 1993



[1] Excluding those enrolled in kindergarten.
[2] Includes those enrolled in nursery schools, prekindergarten programs, preschools, daycare centers, and Head Start, also includes 3- to 5-year-olds with disabilities.

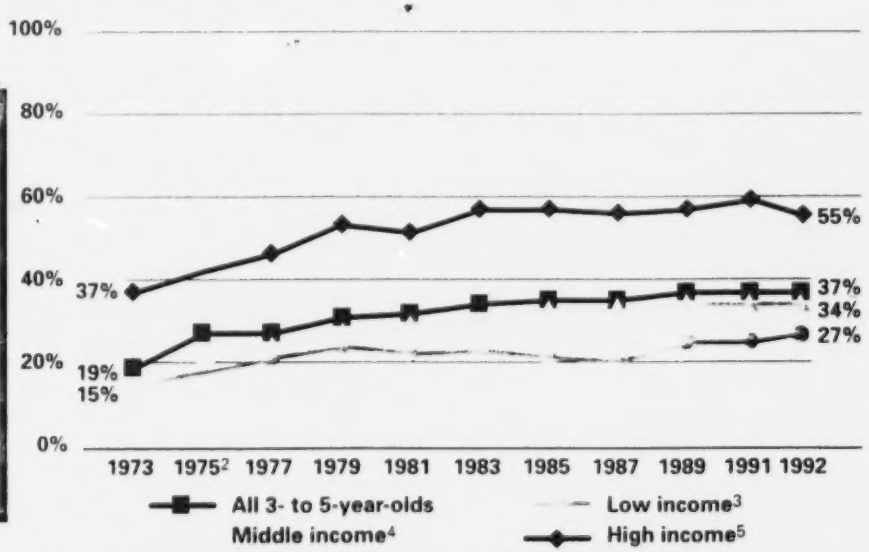
Source: National Center for Education Statistics and Westat, Inc., 1993
This exhibit updates information presented in the 1992 Goals Report.

Between 1973 and 1992, the percentage of 3- to 5-year-olds enrolled in nursery school nearly doubled, from 19% to 37%. Enrollments over this same period have increased for all children regardless of family income, although they have remained substantially higher for children from high-income families than for children from middle- or low-income families.

Exhibit 14

Trends in Nursery School Enrollment

Percentage of 3- to 5-year-olds enrolled in nursery school,[1] 1973 to 1992



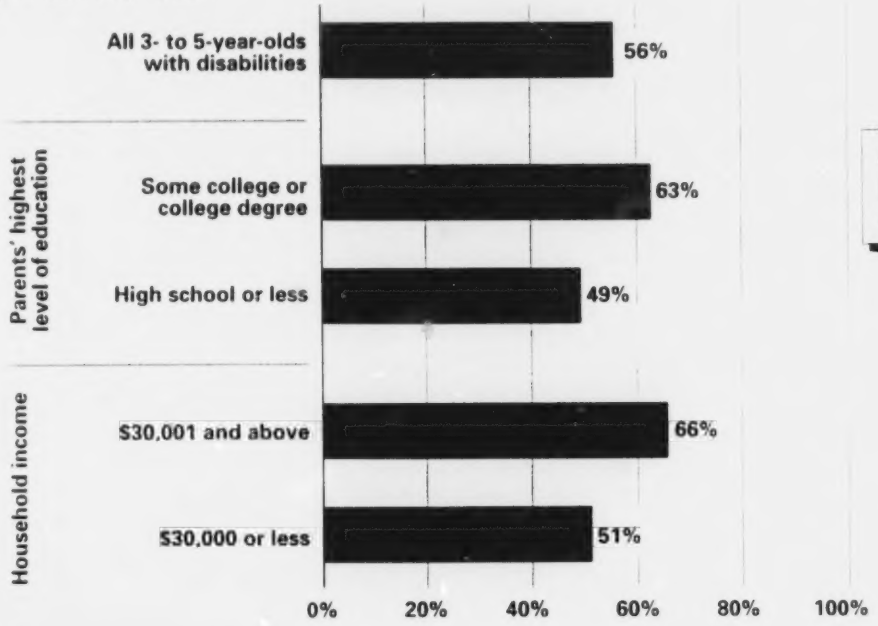
[1] Excluding those enrolled in kindergarten. Percentages in Exhibits 13 and 14 differ because they come from different data sources. See technical notes and sources in Appendix A.
[2] Income data not available for 1975.
[3] Low income is defined as "at or below 20 percent of all households."
[4] Middle income is defined as "greater than 20 percent of all households, but less than or equal to 80 percent."
[5] High income is defined as "greater than 80 percent of all households."

Source: Bureau of the Census and Management Planning Research Associates, Inc., 1993
This exhibit updates information presented in the 1992 Goals Report.

Exhibit 15

Preschool Programs for Children With Disabilities

Percentage of 3- to 5-year-olds[1] with disabilities enrolled in preschool,[2] 1993



[1] Excluding those enrolled in kindergarten.
[2] Includes those enrolled in nursery schools, prekindergarten programs, preschools, daycare centers, and Head Start.

Source: National Center for Education Statistics and Westat, Inc., 1993
This exhibit updates information presented in the 1992 Goals Report.

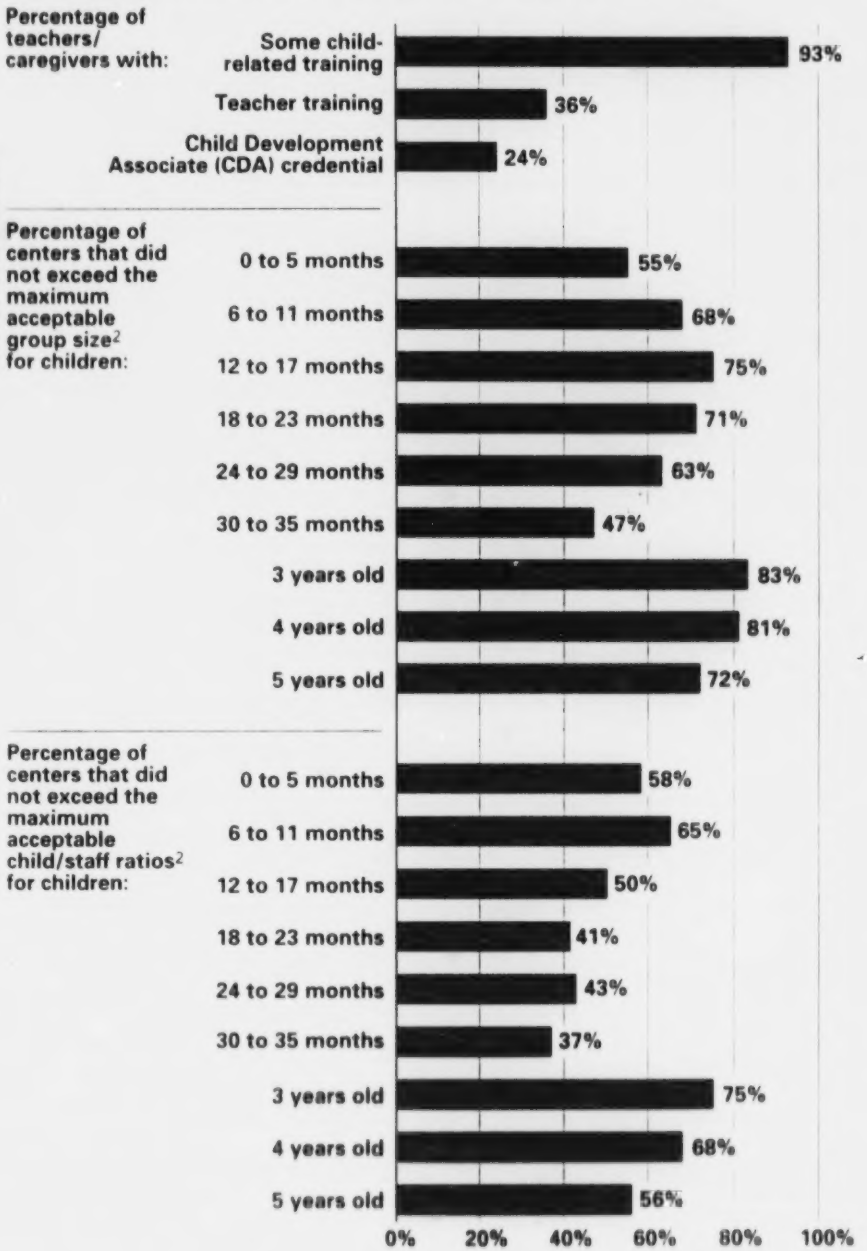
Fifty-six percent of all 3- to 5-year-olds with disabilities attend preschool programs.

In 1990, preschool centers were more likely to meet recommended standards for group size and child/ staff ratios for 3- to 5-year-olds than for infants and toddlers.

Exhibit 16

Quality of Preschool Centers

Characteristics of preschool centers[1] and teachers, 1990



[1] Complete description of preschool center can be found in Appendix A.

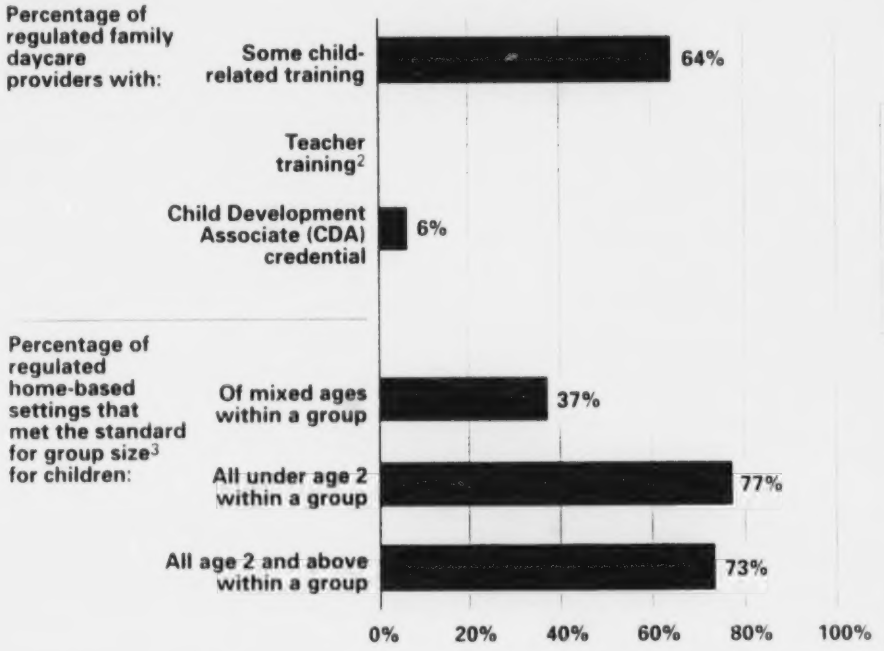
[2] The maximum acceptable group size recommended by the National Association for the Education of Young Children (NAEYC) is 8 for infants, 12 for 1- to 2-year-olds, and 20 for 3- to 5-year-olds. The maximum acceptable child/staff ratio is 10 children per staff member for groups containing 3- to 5-year-olds only, 6 children per staff member for groups containing 2-year-olds only, and 4 children per staff member for groups containing infants and 1-year-olds only. NAEYC standards include an acceptable range of practice on these variables. The figures reported are based on the maximum acceptable numbers, rather than the optimal numbers. Some states also set their own standards in these areas.

Source: Mathematica Policy Research, Inc., 1991 and 1992.
This exhibit repeats information presented in the 1992 Green Book.

Exhibit 17

Quality of Home-Based Preschool Settings

Characteristics of regulated home-based preschool settings[1] and regulated family daycare providers, 1990



Caregivers in home-based preschool settings were less likely than teachers in preschool centers to have child-related training and a Child Development Associate credential.

[1] Complete description of regulated home-based preschool settings can be found in Appendix A.
[2] Data not available.
[3] The standard for group size recommended by Health, Education, and Welfare Day Care Requirements for regulated family daycare providers without helpers who care for children who are all under age 2 within a group is 3. The group size standard for all children aged 2 and above within a group is 6, and the standard for a group of children of mixed ages within a group is 5.

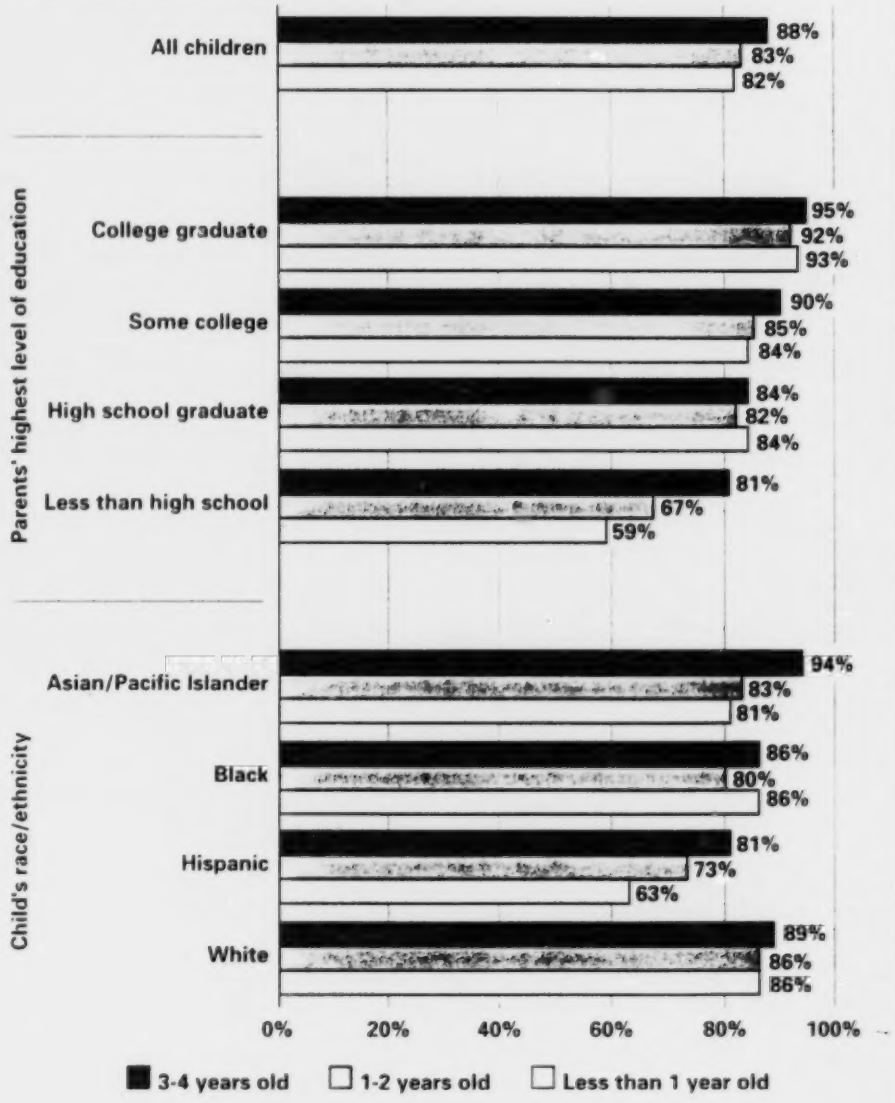
Source: Mathematica Policy Research, Inc., 1991 and 1992.
This exhibit repeats information presented in the 1992 Goals Report.

In 1988, between 80% and 90% of all preschool children were covered by health insurance. However, Hispanic children and those whose parents had completed less than a high school education were much less likely than others to have such insurance.

Exhibit 18

Health Insurance/Medicaid

Percentage of children[1] aged 4 and younger covered by health insurance plans,[2] 1988



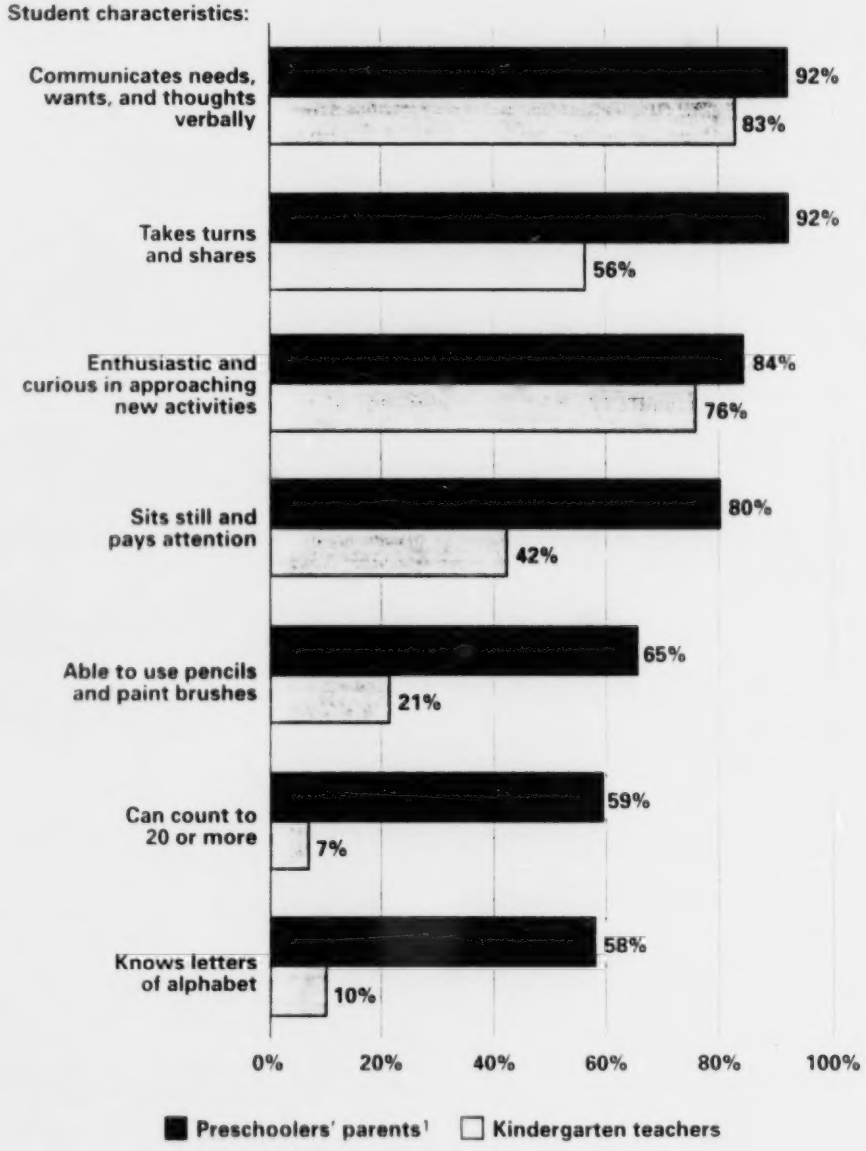
[1] American Indian/Alaskan Native sample size too small to permit reliable estimate.
[2] Includes both private and public (Medicaid) health insurance.

Source: National Center for Health Statistics and Child Trends, Inc., 1991
This exhibit modifies information presented in the 1992 Goals Report

Exhibit 19

Parent and Teacher Perceptions of School Readiness

Percentages of preschoolers' parents[1] and kindergarten teachers who describe the following characteristics as very important or essential for school readiness, 1993



Parents and teachers agree that children's general ability to communicate and to approach new activities enthusiastically are important for school readiness. Most parents also feel that specific skills and knowledge of letters or numbers are important, but teachers are far less likely to believe that children must know these things before entering kindergarten.

[1] 3- to 5-year-olds not enrolled in kindergarten whose parents intend to enroll them in kindergarten at some time in the future. Percentages for preschoolers' parents represent preschoolers whose parents think the characteristic is very important or essential.

Source: National Center for Education Statistics and Westat, Inc., 1993

GOAL 2

High School Completion

1993

GOAL 2

High School Completion

Introduction

A generation ago, school dropouts did not face insurmountable barriers that prevented them from making a living. Today's young dropouts face a different world. Employment opportunities are expanding for those with higher skill levels — those most able to adapt to technological changes — and rapidly disappearing for those with only rudimentary skills. American workplaces are rapidly changing, and workers with advanced skills are being rewarded with higher wages. The youth who left school before graduating in 1990 can expect to earn less than one-half as much as the high school dropout of 1973. Over a lifetime, today's dropout will earn, on average, $200,000 less than a high school graduate.

These individual decisions to drop out — being made by approximately 380,000 youths in grades 10-12 in 1992 — have enormous economic consequences for society as well. One-half of the heads of households on welfare failed to finish high school. Of the more than 1.1 million persons incarcerated in 1990, 82 percent were high school dropouts. The average annual cost of supporting one prisoner — $22,500 a year — would provide six children with a year of Head Start. It is much more cost-effective to provide the learning environment and support that enable young people to complete school, rather than pay for the consequences of their decisions to drop out.

Decisions to drop out have more than economic consequences. Dropouts lose connections to adults and influences that can create purposefulness in their lives, the possibilities for careers, the skills for lifelong learning, healthy choices for themselves, and responsible choices on behalf of others.

This Report indicates little if any progress on Goal 2 in recent years. While the high school completion rate for 19- and 20-year-olds increased markedly in the early 1980s, it has remained relatively unchanged since then, and is still short of the national Goal of 90 percent. While school-related reasons dominate the explanations for dropping out of school, an alarming number of youths cite pregnancy and conflicts with jobs as reasons for dropping out. Obviously, multiple problems — school failure, teenage pregnancies, and disconnections between school and work, to name a few — must be addressed if Goal 2 is to be achieved.

GOAL 2

High School Completion

By the year 2000, the high school graduation rate will increase to at least 90 percent.

Objectives

- The nation must dramatically reduce its dropout rate, and 75 percent of those students who do drop out will successfully complete a high school degree or its equivalent.
- The gap in high school graduation rates between American students from minority backgrounds and their non-minority counterparts will be eliminated.

GOAL 2

High School Completion

What we have learned since the 1992 Report

The 1993 Goals Report presents updated information on the percentage of young adults with a high school credential and the percentage who have dropped out. New information includes a ten-year comparison (1980-82 to 1990-92) of the percentage of students who dropped out between the 10th and 12th grades and reasons younger and older dropouts gave for leaving school.

Direct Measures of the Goal

High School Completion

In 1992, the high school completion rate was 87% for 19- to 20-year-olds and 88% for 23- to 24-year-olds. Although the high school completion rate increased markedly in the early 1980s among 19- to 20-year-olds, it has remained relatively stable since then. (See Exhibits 20 and 21.)

Direct Measures of the Objectives

School Dropouts

Between 1975 and 1992, the overall dropout rate for 16- to 24-year-olds declined slightly, from 14% to 11%. The gap in dropout rates between White and Black students narrowed from a 12-point difference in 1975 to a 6-point difference in 1992. Dropout rates for Hispanic students have been consistently higher than the rates for Black and White students. (See Exhibit 23.)

Over the past 10 years, the percentage of students who dropped out between the 10th and 12th grades has been cut nearly in half. (See Exhibit 24.)

GOAL 2

High School Completion

Additional Important Information

Factors Related to Completion and Dropping Out

While school-related reasons were the most common explanations given for dropping out of school in 1992, large numbers of students cited family- and job-related factors as reasons for dropping out. Blacks and Hispanics were more likely than Whites to cite family-related factors as reasons for dropping out. (See Exhibits 27 and 28.)

During the period between 1988 and 1992, older dropouts were much more likely than younger dropouts to cite inability to work and go to school at the same time as a reason that they dropped out of school. (See Exhibit 29.)

What we still need to know

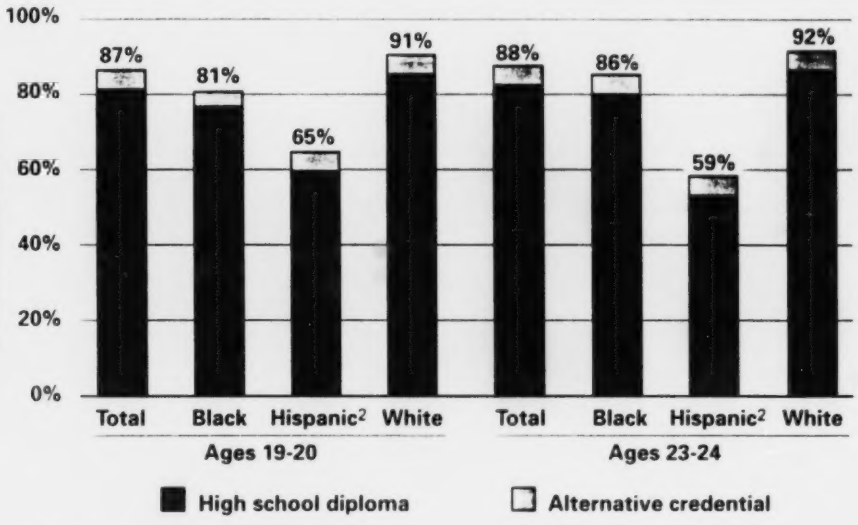
We still need a consistent nationwide record system that will allow comparable state high school completion and dropout data to be reported on a regular basis. The Panel has proposed such a system — the Voluntary State/Local Student Record System — and will continue to encourage its development and implementation. In the interim, the Panel will report the best high school completion and dropout data available.

The high school completion rate in 1992 was 87% for 19- to 20-year-olds and 88% for 23- to 24-year-olds. Rates for Black and White students were substantially higher than the rate for Hispanics.

Exhibit 20

High School Completion Status

Percentage of young adults[1] with high school credential, 1992



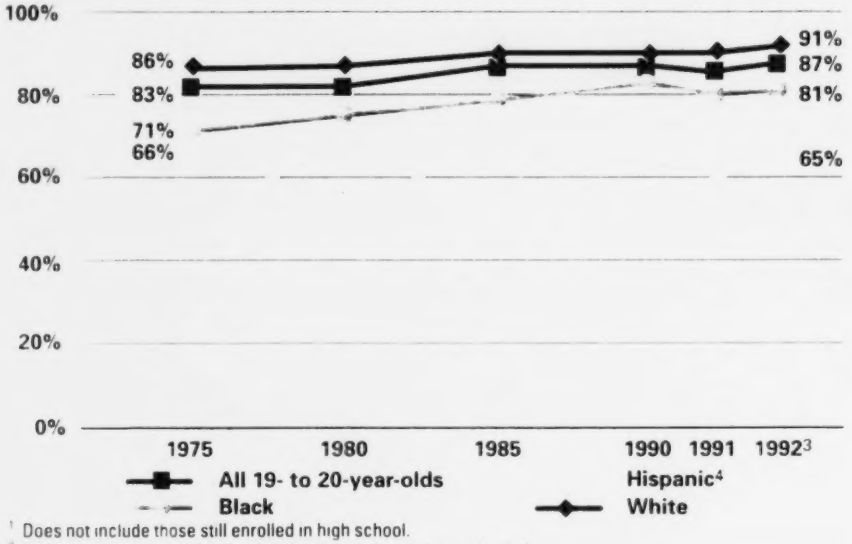
[1] Does not include those still enrolled in high school.
[2] Hispanic rates may vary more than rates for other groups because of a small sample size.

Source: National Center for Education Statistics and Management Planning Research Associates, Inc., 1993
This exhibit modifies and updates information presented in the 1992 Goals Report.

Exhibit 21

High School Completion Trends

Percentage of 19- to 20-year-olds[1] with a high school credential,[2] 1975 to 1992



[1] Does not include those still enrolled in high school.
[2] Includes traditional high school diploma and alternative credential.
[3] Interpret with caution. Change between 1991 and 1992 could be attributable to a change in wording of the question on the survey. See technical notes in Appendix A.
[4] Hispanic rates may vary more than rates for other groups because of a small sample size.

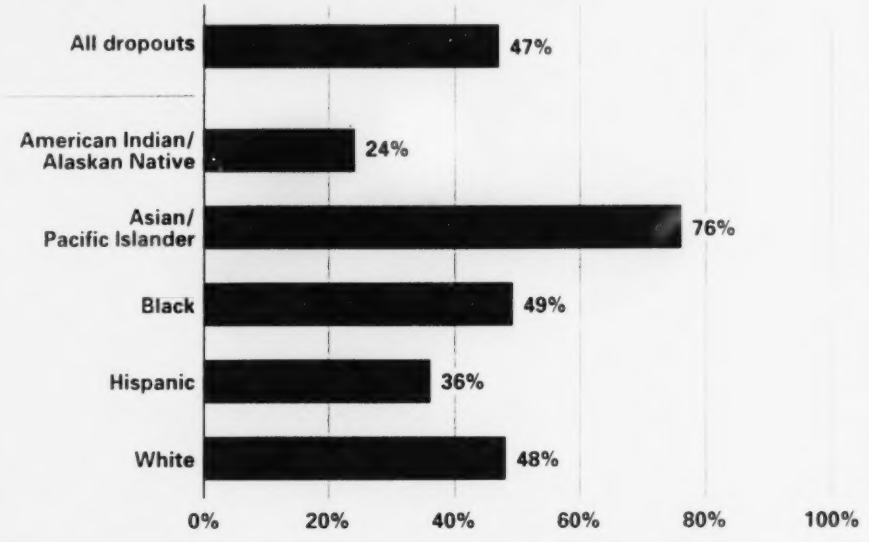
Although the high school completion rate increased markedly in the early 1980s among 19- and 20-year-olds, it has been relatively stable since then.

Source: National Center for Education Statistics, 1993
This exhibit updates and updates information presented in the 1992 Goals Report.

Exhibit 22

Dropouts Who Returned to High School

Percentage of 1980 sophomores who dropped out, but then returned and completed high school by 1986



Nearly half of the 1980 sophomores who dropped out returned and completed high school within the following six years.

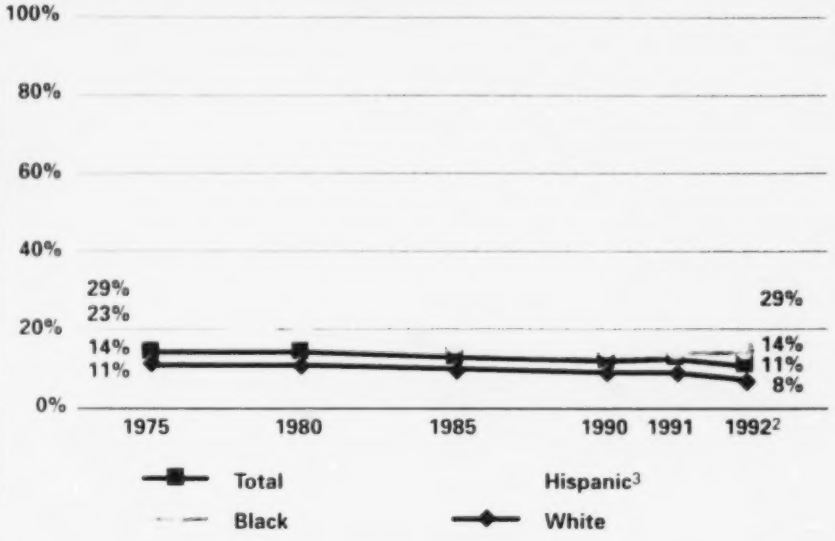
Source: National Center for Education Statistics, 1989
This exhibit repeats information presented in the 1992 Goals Report.

Exhibit 23

Trends in High School Dropout Rates

Percentage of young adults 16 to 24 years old without a high school credential,[1] 1975 to 1992

Between 1975 and 1992, the overall dropout rate for 16- to 24-year-olds declined slightly, from 14% to 11%. The gap in dropout rates between White and Black students narrowed from a 12-point difference in 1975 to a 6-point difference in 1992. Dropout rates for Hispanic students have been consistently higher than the rates for Black and White students.



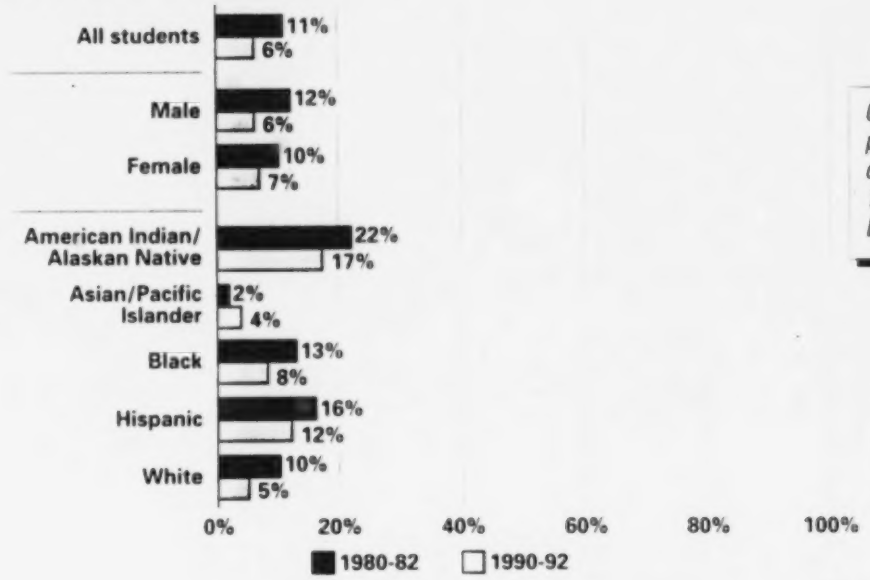
[1] Includes traditional high school diploma and alternative credential.
[2] Interpret with caution. Changes between 1991 and 1992 could be attributable to a change in wording of the question on the survey. See technical notes in Appendix A.
[3] Hispanic rates may vary more than rates for other groups because of a small sample size.

Source: National Center for Education Statistics, 1993.
This exhibit modifies and updates information presented in the 1992 Goals Report.

Exhibit 24

Ten-Year Comparison of Dropout Rates

Percentage of students who dropped out between the 10th and 12th grades, 1982 and 1992



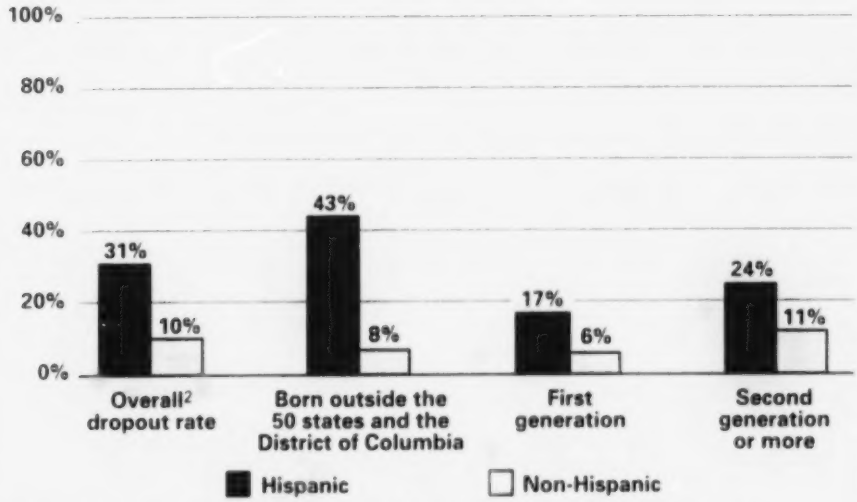
Over the past ten years, the percentage of students who dropped out between the 10th and 12th grades has been cut nearly in half.

Source: National Center for Education Statistics, 1993

Exhibit 25

Intergenerational Analysis of Dropouts

Proportion of dropouts aged 16 to 24 born outside and within the U.S.,[1] 1989



The Hispanic dropout rate (31% in 1989) has been consistently higher than the rates for Black and White students. Among Hispanic 16- to 24-year-olds who were born outside the 50 states and the District of Columbia, 43% were dropouts, compared with only 8% of non-Hispanics. However, even when one looks exclusively at Hispanics born within the U.S., their dropout rate is still more than double that of non-Hispanics.

[1] Includes only those born in the 50 states and the District of Columbia. Does not include those born in Puerto Rico.
[2] Includes a small proportion for whom recency of migration is unknown.

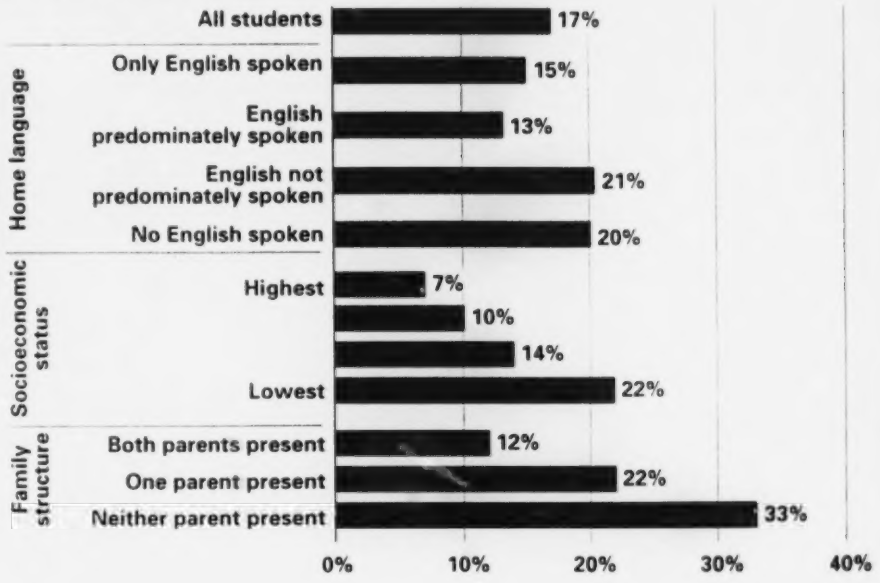
Source: National Center for Education Statistics, 1992
This exhibit repeats information presented in the 1992 Goals Report

No English spoken in the home, low socioeconomic status, and the absence of parents from the home are all factors associated with an increased likelihood that students will drop out of school.

Exhibit 26

Factors Related to Dropping Out

Percentage of the 1980 sophomore class who dropped out, by selected characteristics

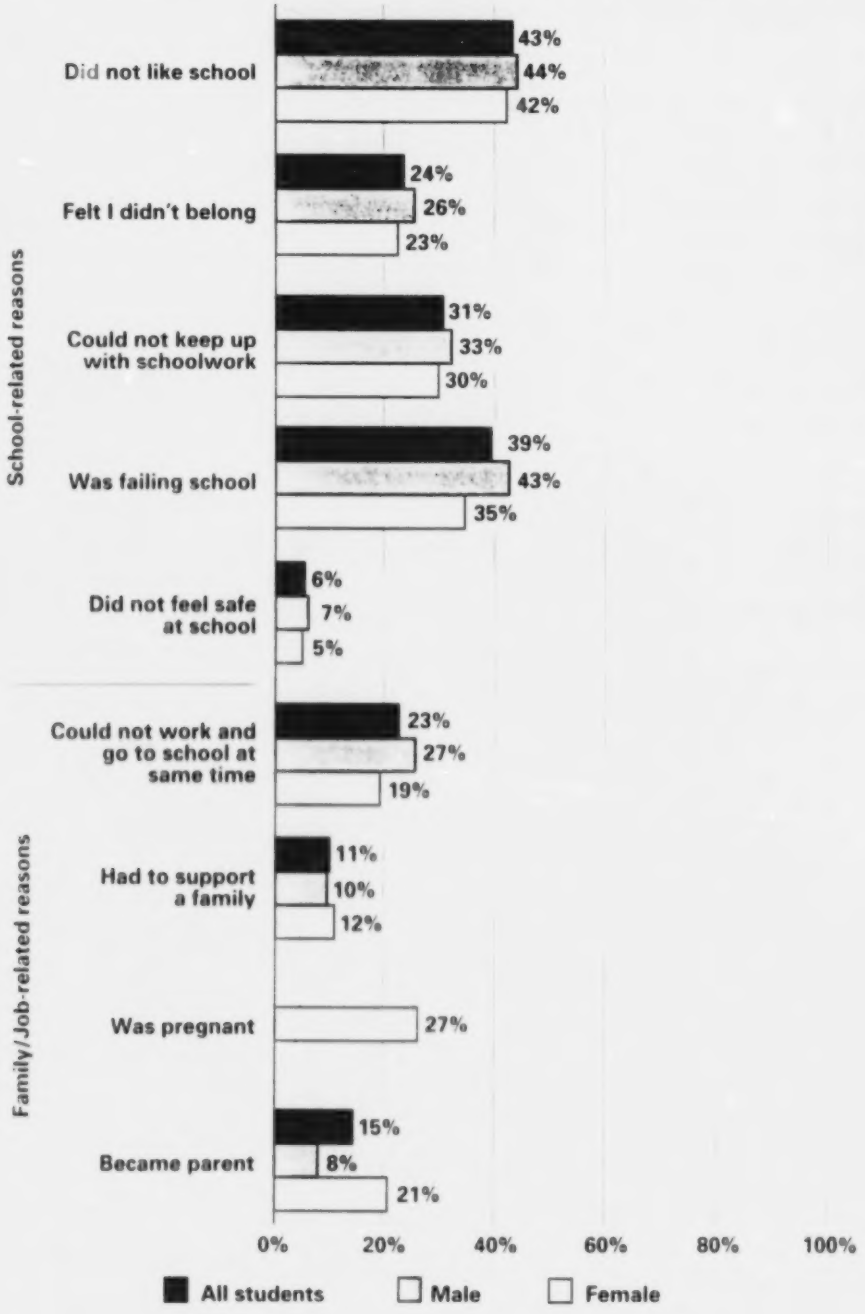


Source: National Center for Education Statistics, 1980
This exhibit repeats information presented in the 1992 Goals Report

Exhibit 27

Reasons for Dropping Out, by Sex

Percentage of dropouts between the 10th and 12th grades who reported the following reasons for dropping out of school, 1992



While school-related reasons were the most common explanations given for dropping out of school in 1992, large numbers of students cited family- and job-related factors as reasons for dropping out.

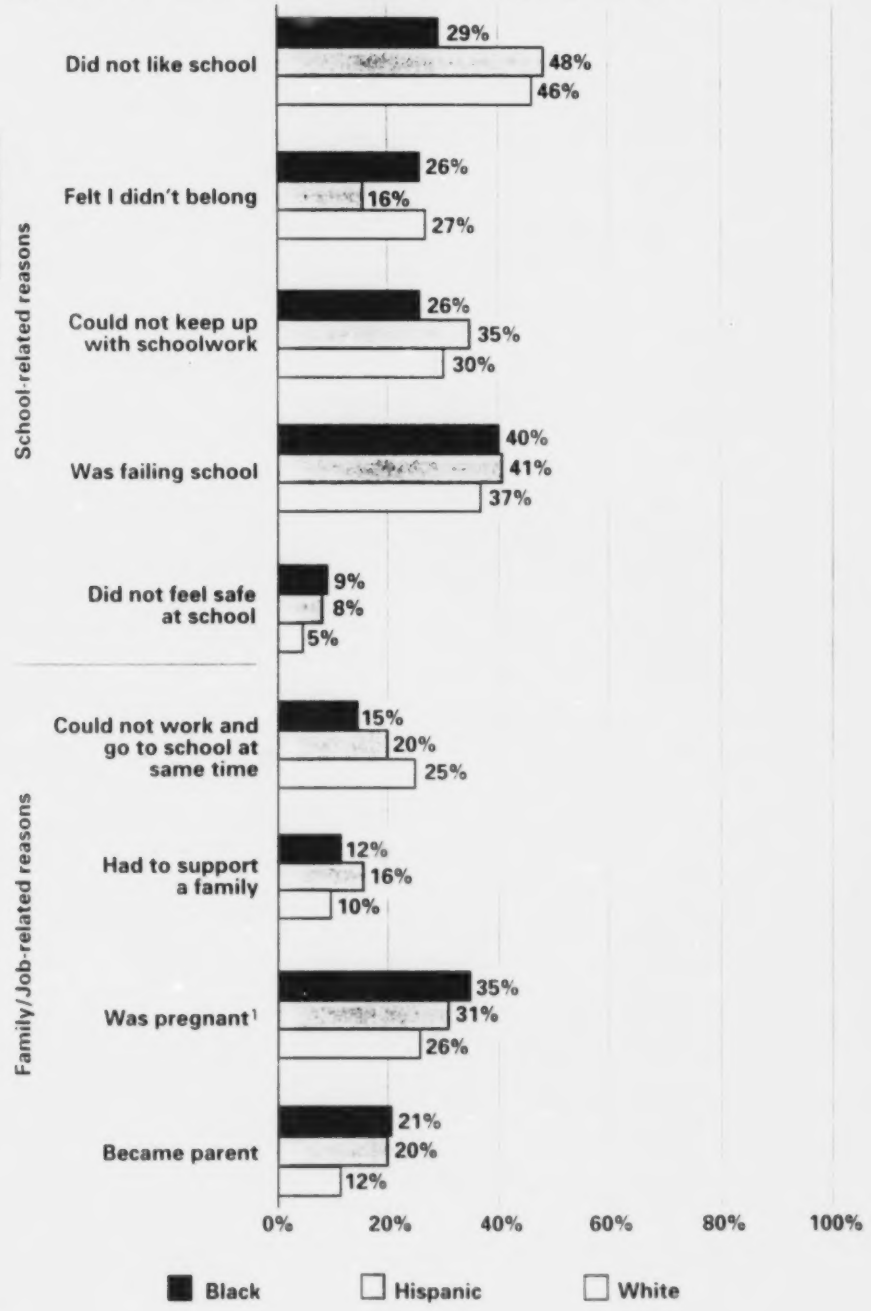
Source: National Center for Education Statistics, 1993

Blacks and Hispanics were more likely than Whites to cite family-related factors as reasons for dropping out.

Exhibit 28

Reasons for Dropping Out, by Race/Ethnicity

Percentage of dropouts between the 10th and 12th grades who reported the following reasons for dropping out of school, 1992



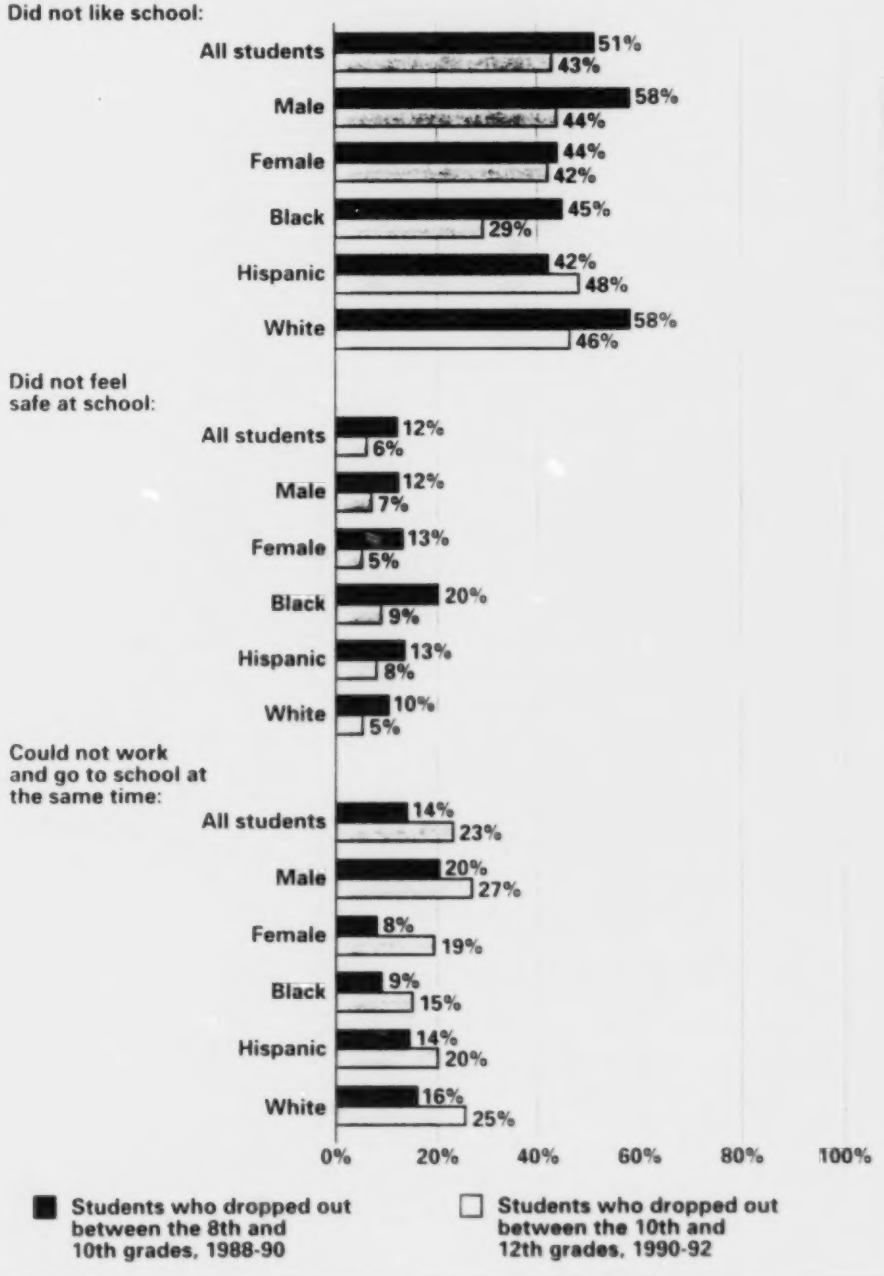
[1] Question was asked of females only.

Source: National Center for Education Statistics, 1993

Exhibit 29

Reasons for Dropping Out, by Age Group

Percentages of dropouts between the 8th and 10th grades and between the 10th and 12th grades who reported the following reasons for dropping out of school, 1990 and 1992


Did not like school:
All students 51% 43%
Male 58% 44%
Female 44% 42%
Black 45% 29%
Hispanic 42% 48%
White 58% 46%
Did not feel safe at school:
All students 12% 6%
Male 12% 7%
Female 13% 5%
Black 20% 9%
Hispanic 13% 8%
White 10% 5%
Could not work and go to school at the same time:
All students 14% 23%
Male 20% 27%
Female 8% 19%
Black 9% 15%
Hispanic 14% 20%
White 16% 25%
0% 20% 40% 60% 80% 100%
Students who dropped out between the 8th and 10th grades, 1988-90
Students who dropped out between the 10th and 12th grades, 1990-92

During the period between 1988 and 1992, older dropouts were much more likely than younger dropouts to cite inability to work and go to school at the same time as a reason that they dropped out of school.

Source: National Center for Education Statistics, 1993

GOAL 3

Student Achievement and Citizenship

1993

GOAL 3

Student Achievement and Citizenship

Introduction

The National Education Goals were created out of concern that our current education system is not preparing American students well for the 21st century. Today, too few students attain high achievement, our standards generally do not match those of the education systems in most developed nations, and no one feels accountable for results. Goal 3 states that all students should move on at critical points in their education with the requisite knowledge and ability. This means that we need:

- *Nationwide content and student performance standards that (a) reflect what we believe all students should know and be able to do at designated grade levels, and (b) match or surpass standards for student achievement in other developed countries.* Efforts to develop voluntary standards in all major subject areas are under way (see Chapter 1).

- *A voluntary system of assessments that is aligned with these nationwide standards.* Our tests must measure for the outcomes we want. They must determine whether students can use knowledge for problem-solving, have mastered content far beyond the so-called basics, and are able to infer and create new knowledge. Developing such assessments is a complex task. However, many of the nation's leading researchers and educators are collaborating to fill the need for more challenging assessments.

The National Education Goals Panel and the proposed National Education Standards and Improvement Council will establish criteria to be used voluntarily to judge developing nationwide standards. They will also ensure that the standards-development process is ongoing and is communicated well to the American public. This latter task—to inform and involve the public in making sure that all our students are challenged academically—is critical to a rebuilding of the school system. Americans must want better than low-level, minimal learning expectations for children and youth if we are to meet Goal 3.

The 1993 Goals Report includes some mildly encouraging news regarding student achievement and young citizen participation. Student achievement in mathematics improved modestly between 1990 and 1992, and voter participation increased among young adults between 1988 and 1992. However, the data also indicate how far we are from achieving the Goal, especially among minority groups. We are still not expecting and supporting all of our students to attain the academic mastery of which they are capable.

GOAL 3

Student Achievement and Citizenship

By the year 2000, American students will leave grades four, eight, and twelve having demonstrated competency in challenging subject matter including English, mathematics, science, history, and geography; and every school in America will ensure that all students learn to use their minds well, so they may be prepared for responsible citizenship, further learning, and productive employment in our modern economy.

Objectives

- The academic performance of elementary and secondary students will increase significantly in every quartile, and the distribution of minority students in each level will more closely reflect the student population as a whole.
- The percentage of students who demonstrate the ability to reason, solve problems, apply knowledge, and write and communicate effectively will increase substantially.
- All students will be involved in activities that promote and demonstrate good citizenship, community service, and personal responsibility.
- The percentage of students who are competent in more than one language will substantially increase.
- All students will be knowledgeable about the diverse cultural heritage of this nation and about the world community.

GOAL 3

Student Achievement and Citizenship

What we have learned since the 1992 Report

The 1993 Goals Report updates the percentage of students who have met the Goals Panel's performance standard in mathematics and presents new information on those who have met the standard in reading. It presents illustrative items from the 1992 National Assessment of Educational Progress (NAEP), demonstrating that students who meet the Goals Panel's performance standard are able to answer much more challenging questions on tests of mathematics and reading than those falling below this standard. New information is also presented on the percentage of 12th graders who perform community service. Updates are provided on the numbers of students who have taken Advanced Placement examinations and who vote. Additional important information is presented on the percentage of students who participate in challenging courses and a twenty-year comparison of the types of programs in which high school seniors have enrolled.

Direct Measures of the Goal

Student Achievement in Mathematics

Fewer than one out of every five students in Grades 4 and 12, and one out of every four students in Grade 8, have met the Goals Panel's performance standard in mathematics. The percentages of 4th and 8th graders who met the Goals Panel's performance standard in mathematics increased from 13% to 18%, and 20% to 25%, respectively, but the percentage of 12th graders who met the standard stayed about the same. (See Exhibit 30.)

Student Achievement in Reading

In 1992, approximately one out of every four students in Grades 4 and 8 met the Goals Panel's performance standard in reading. More than one-third of all 12th graders met the standard. (See Exhibit 34.)

Advanced Placement Participation and Performance

Between 1986 and 1993, the numbers of Advanced Placement examinations taken in English, mathematics, science, and history increased by 80%, the number taken in foreign languages more than doubled, and the number taken in fine arts nearly tripled. (See Exhibits 41 and 43.)

For every 1,000 11th and 12th graders enrolled in 1993, 85 Advanced Placement examinations were taken in English, mathematics, science, and history (an increase of 13 since 1991). Eight examinations (per 1,000 11th and 12th graders) were taken in foreign languages and two were taken in fine arts. Nearly two-thirds of the examinations taken in English, mathematics, science, and history, and approximately three-fourths taken in foreign languages and fine arts were graded at 3 or above, which is generally high enough to make students eligible for college credit. (See Exhibits 40 and 42.)

Citizenship and Community Service

In 1992, 44% of 12th graders reported that they performed community service during the past two years. (See Exhibit 45.)

GOAL 3

Student Achievement and Citizenship

Between 1972 and 1976, the percentage of 18- to 20-year-olds who registered to vote and who actually voted dropped substantially. Rates remained fairly steady until 1988, and then increased in 1992. In 1992, 53% of all 18- to 20-year-olds were registered to vote, and 42% actually voted. (See Exhibits 46 and 47.)

Additional Important Information

Participation in Challenging Courses

The percentage of high school graduates who completed four years of English rose sharply between 1982 and 1987, then dropped slightly in 1990. (See Exhibit 48.)

The percentage of students who completed the sequence of Biology, Chemistry, and Physics has continued to increase slowly since 1982. (See Exhibit 48.)

Between 1982 and 1987, the percentage of high school graduates who completed the sequence of Algebra I, Algebra II, and Geometry increased substantially. Since 1987, the percentage has remained constant. During the same period (1982 - 1990), the percentage of high school graduates who had completed Calculus increased slightly. (See Exhibit 49.)

The percentages of high school graduates who completed courses in U.S. and World History, Geography, foreign languages, and fine arts increased substantially between 1982 and 1990. (See Exhibits 50 and 51.)

Academic Programs

Between 1972 and 1980, the percentage of high school seniors enrolled in an academic or college preparatory program decreased 8 percentage points. However, by 1992, the percentage had risen slightly higher than its 1972 level. The percentage of female students enrolled in academic or college preparatory programs has increased 5 percentage points over the past twenty years, compared to a decrease of 2 percentage points for males. (See Exhibit 52.)

What we still need to know

We still need to know how U.S. students stack up against world-class standards in challenging subject matter. The good news is that nationwide standards in all subject areas are under development. The Goals Panel will continue to collaborate with the agencies and departments which oversee these standards development efforts and will press on to delineate criteria on which standards may be judged as "world-class."

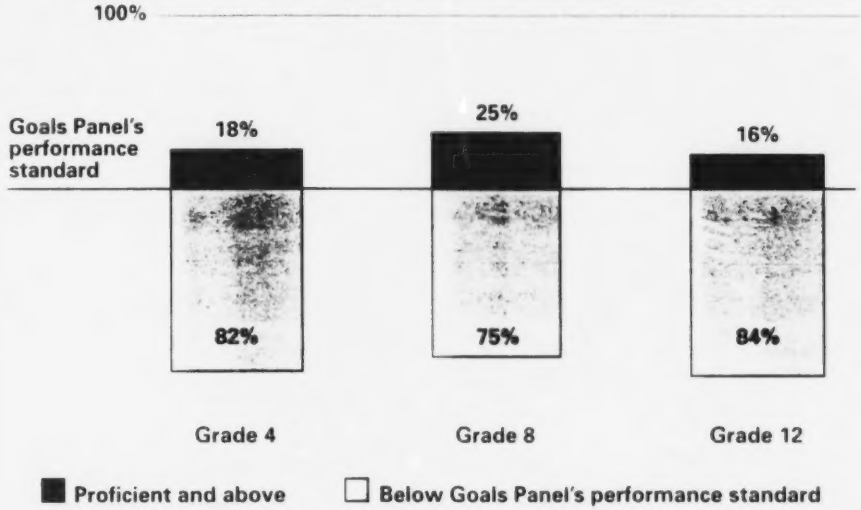
Achievement Level Data from the 1990 and 1992 National Assessments of Educational Progress (NAEP)

The data shown in Exhibits 30 to 37 should be interpreted with caution. The line signifying the *Goals Panel's Performance Standard* classifies student performance according to achievement levels devised by the National Assessment Governing Board (NAGB). These achievement-level data have been previously reported by the National Center for Education Statistics (NCES). Students with NAEP scores falling below the *Goals Panel's Performance Standard* have been classified by NAGB as "Basic" or below; those above have been classified as "Proficient" or "Advanced."

The NAGB achievement levels represent a reasonable way of categorizing overall performance on the NAEP. They are also consistent with the Panel's efforts to report such performance against a high-criterion standard. However, the methods used to derive the NAGB achievement "cut points" (i.e., the points distinguishing the percentage of students scoring at the different achievement levels) have been questioned and are still under review. The Panel will continue to monitor subsequent work in this area, and reserves the right to alter its reporting approaches based on new findings. For further information on the interpretation of these data, please consult Appendix A.

Exhibit 30
Mathematics Achievement

Percentages of 4th, 8th, and 12th graders who met the Goals Panel's performance standard[1] in mathematics, 1992



Fewer than one out of every five students in Grades 4 and 12 have met the Goals Panel's performance standard in mathematics. One out of every four 8th graders has met the standard.

[1] The Goals Panel's performance standard is "mastery over challenging subject matter" as indicated by performance at the Proficient or Advanced levels on the National Assessment of Educational Progress (NAEP). These levels were established by the National Assessment Governing Board (NAGB) and reported by the National Center for Education Statistics (NCES) in recent NAEP publications. A more complete description of the performance standard can be found in Appendix A.

Change Since 1990[1]

Percentages of 4th, 8th, and 12th graders who met the Goals Panel's performance standard[2] in mathematics:

	Proficient and above	
	1990	1992
Grade 4	13%	18% *
Grade 8	20%	25% *
Grade 12	13%	16%

Between 1990 and 1992, the percentages of students in Grades 4 and 8 who met the Goals Panel's performance standard in mathematics increased.

[1] Interpret with caution. Data are from a representative national survey. The changes shown could be attributable to sampling error. In cases noted with an asterisk, we are confident that change has occurred.
[2] The Goals Panel's performance standard is "mastery over challenging subject matter" as indicated by performance at the Proficient or Advanced levels on the National Assessment of Educational Progress (NAEP). These levels were established by the National Assessment Governing Board (NAGB) and reported by the National Center for Education Statistics (NCES) in recent NAEP publications. A more complete description of the performance standard can be found in Appendix A.

Source: National Center for Education Statistics, 1993
This exhibit updates information presented in the 1992 Goals Report.

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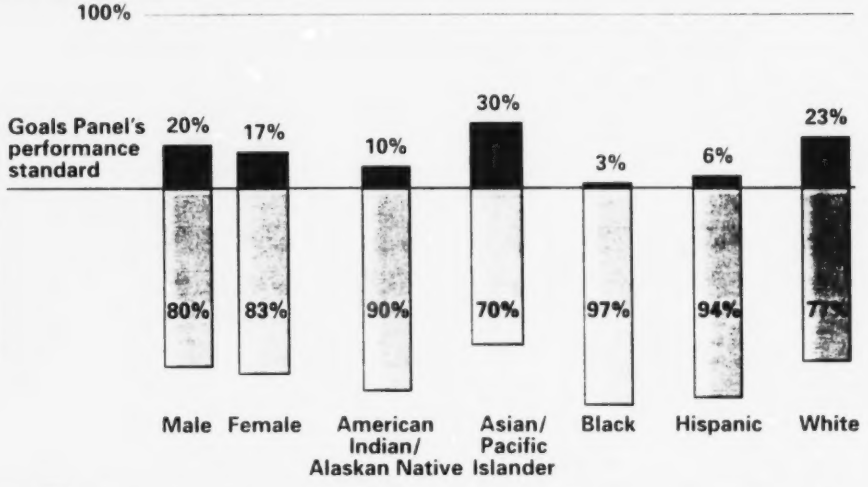
Exhibit 31
Mathematics Achievement – Grade 4
Percentage of 4th graders who met the Goals Panel's performance standard[1] in mathematics, 1992

In 1992, the percentage of 4th graders who met the Goals Panel's performance standard in mathematics ranged from 3% for Blacks to 30% for Asians/Pacific Islanders.



[1] The Goals Panel's performance standard is "mastery over challenging subject matter" as indicated by performance at the Proficient or Advanced levels on the National Assessment of Educational Progress (NAEP). These levels were established by the National Assessment Governing Board (NAGB) and reported by the National Center for Education Statistics (NCES) in recent NAEP publications. A more complete description of the performance standard can be found in Appendix A.

Change Since 1990[1]

Percentage of 4th graders who met the Goals Panel's performance standard[2] in mathematics:

	Proficient and above	
	1990	1992
Male	14%	20% *
Female	13%	17%
American Indian/Alaskan Native	5%	10%
Asian/Pacific Islander	24%	30%
Black	2%	3%
Hispanic	5%	6%
White	17%	23% *

[1] Interpret with caution. Data are from a representative national survey. The changes shown could be attributable to sampling error. In cases noted with an asterisk, we are confident that change has occurred.

[2] The Goals Panel's performance standard is "mastery over challenging subject matter" as indicated by performance at the Proficient or Advanced levels on the National Assessment of Educational Progress (NAEP). These levels were established by the National Assessment Governing Board (NAGB) and reported by the National Center for Education Statistics (NCES) in recent NAEP publications. A more complete description of the performance standard can be found in Appendix A.

Source: National Center for Education Statistics, 1993
This exhibit updates information presented in the 1992 Goals Report

Grade 4 Sample NAEP Mathematics Items

EASY

- Example of an easy item on the 4th grade assessment:

  Divide 108 by 9.

  Answer: 12

- Average percentage of easy items answered correctly by 4th graders at three achievement levels in 1992:[1]

  Basic = 71% Proficient = 88% Advanced = 94%

MODERATE

- Example of a moderate item on the 4th grade assessment:

  POINTS EARNED FROM SCHOOL EVENTS

Class	Mathathon	Readathon
Mr. Lopez	425	411
Ms. Chen	328	456
Mrs. Green	447	342

  What was the total number of points earned from the mathathon?

  Answer: 1,200

- Average percentage of moderate items answered correctly by 4th graders at three achievement levels in 1992:[1]

  Basic = 45% Proficient = 72% Advanced = 88%

CHALLENGING

- Example of a challenging item on the 4th grade assessment:

  How much would 217 be increased if the digit 1 were replaced by a digit 5?

  A 4 C 44
  (B) 40 D 400

- Average percentage of challenging items answered correctly by 4th graders at three achievement levels in 1992:[1]

  Basic = 30% Proficient = 56% Advanced = 79%

VERY CHALLENGING

- Example of a very challenging item on the 4th grade assessment:

  Think carefully about the following question. Write a complete answer. You may use drawings, words, and numbers to explain your answer. Be sure to show all of your work.

  José ate ½ of a pizza.
  Ella ate ½ of another pizza.

  José said that he ate more pizza than Ella, but Ella said they both ate the same amount. Use words and pictures to show that José could be right.

- Average percentage of very challenging items answered correctly by 4th graders at three achievement levels in 1992:[1]

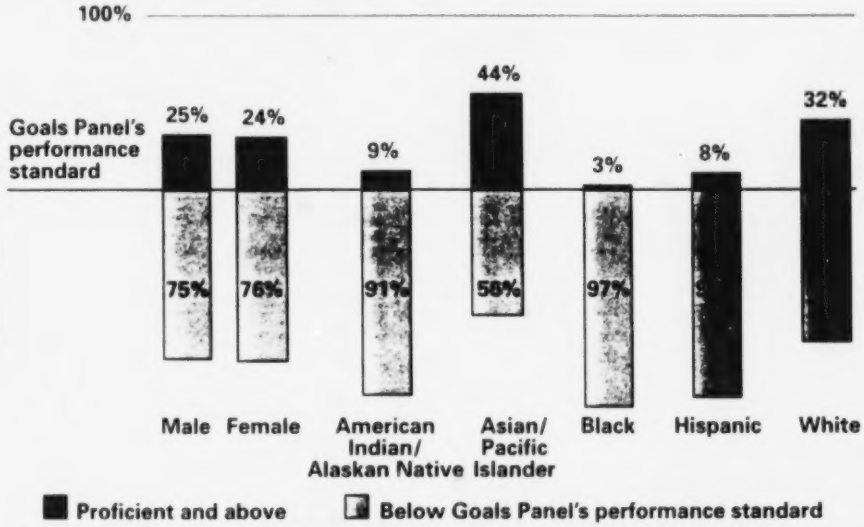
  Basic = 13% Proficient = 31% Advanced = 60%

Note: In 1992, nearly four out of ten 4th graders (39%) were unable to reach the lowest achievement level in mathematics (Basic). Definitions of the achievement levels can be found in Appendix A.

Exhibit 32
Mathematics Achievement – Grade 8

Percentage of 8th graders who met the Goals Panel's performance standard[1] in mathematics, 1992

In 1992, the percentage of 8th graders who met the Goals Panel's performance standard in mathematics ranged from 3% for Blacks to 44% for Asians/ Pacific Islanders.



[1] The Goals Panel's performance standard is "mastery over challenging subject matter" as indicated by performance at the Proficient or Advanced levels on the National Assessment of Educational Progress (NAEP). These levels were established by the National Assessment Governing Board (NAGB) and reported by the National Center for Education Statistics (NCES) in recent NAEP publications. A more complete description of the performance standard can be found in Appendix A.

Change Since 1990[1]

Percentage of 8th graders who met the Goals Panel's performance standard[2] in mathematics:

	Proficient and above	
	1990	1992
Male	21%	25%
Female	18%	24% *
American Indian/ Alaskan Native[3]	9%	9%
Asian/Pacific Islander[3]	38%	44%
Black	6%	3%
Hispanic	6%	8%
White	24%	32% *

[1] Interpret with caution. Data are from a representative national survey. The changes shown could be attributable to sampling error. In cases noted with an asterisk, we are confident that change has occurred.

[2] The Goals Panel's performance standard is "mastery over challenging subject matter" as indicated by performance at the Proficient or Advanced levels on the National Assessment of Educational Progress (NAEP). These levels were established by the National Assessment Governing Board (NAGB) and reported by the National Center for Education Statistics (NCES) in recent NAEP publications. A more complete description of the performance standard can be found in Appendix A.

[3] Should be interpreted with caution, since 1990 sample size does not allow accurate estimate of sample variability.

Source: National Center for Education Statistics, 1993
This exhibit updates information presented in the 1992 Goals Report.

Grade 8 Sample NAEP Mathematics Items

EASY

- Example of an easy item on the 8th grade assessment:

  What number is four hundred five and three-tenths?

A	45.3	C	453
(B)	405.3	D	4,005.3

- Average percentage of easy items answered correctly by 8th graders at three achievement levels in 1992:[1]

  Basic = 84% **Proficient = 94%** **Advanced = 98%**

MODERATE

- Example of a moderate item on the 8th grade assessment:

  Jill needs to earn $45.00 for a class trip. She earns $2.00 each day on Mondays, Tuesdays, and Wednesdays, and $3.00 each day on Thursdays, Fridays, and Saturdays. She does not work on Sundays. How many weeks will it take her to earn $45.00?

  Answer: 3 weeks

- Average percentage of moderate items answered correctly by 8th graders at three achievement levels in 1992:[1]

  Basic = 58% **Proficient = 83%** **Advanced = 94%**

CHALLENGING

- Example of a challenging item on the 8th grade assessment:

  Ken bought a used car for $5,375. He had to pay an additional 15 percent of the purchase price to cover both sales tax and extra fees. Of the following, which is closest to the *total* amount Ken paid?

A	$806	C	$5,760	(E)	$6,180
B	$5,510	D	$5,940		

- Average percentage of challenging items answered correctly by 8th graders at three achievement levels in 1992:[1]

  Basic = 36% **Proficient = 64%** **Advanced = 85%**

VERY CHALLENGING

- Example of a very challenging item on the 8th grade assessment:

  This question requires you to show your work and explain your reasoning. You may use drawings, words, and numbers in your explanation.

  Treena won a 7-day scholarship worth $1,000 to the Pro Shot Basketball Camp. Round-trip travel expenses to the camp are $335 by air or $125 by train. At the camp she must choose between a week of individual instruction at $60 per day or a week of group instruction at $40 per day. Treena's food and other expenses are fixed at $45 per day. If she does not plan to spend any money other than the scholarship, what are *all* choices of travel and instruction plans that she could afford to make? Explain your reasoning.

- Average percentage of very challenging items answered correctly by 8th graders at three achievement levels in 1992:[1]

  Basic = 15% **Proficient = 29%** **Advanced = 56%**

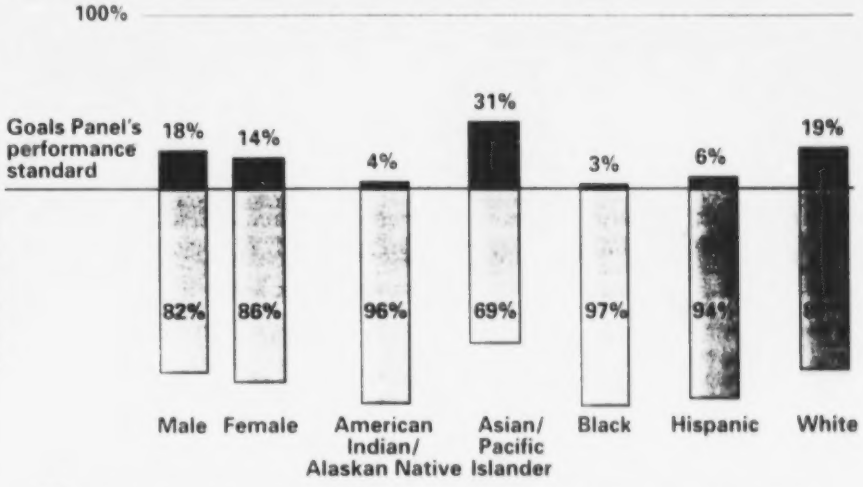
[1] Note: In 1992, over one-third of all 8th graders (37%) were unable to reach the lowest achievement level in mathematics (Basic). Definitions of the achievement levels can be found in Appendix A.

In 1992, the percentage of 12th graders who met the Goals Panel's performance standard in mathematics ranged from 3% for Blacks to 31% for Asians/ Pacific Islanders.

Exhibit 33

Mathematics Achievement – Grade 12

Percentage of 12th graders who met the Goals Panel's performance standard[1] in mathematics, 1992



[1] The Goals Panel's performance standard is "mastery over challenging subject matter" as indicated by performance at the Proficient or Advanced levels on the National Assessment of Educational Progress (NAEP). These levels were established by the National Assessment Governing Board (NAGB) and reported by the National Center for Education Statistics (NCES) in recent NAEP publications. A more complete description of the performance standard can be found in Appendix A.

Change Since 1990[1]

Percentage of 12th graders who met the Goals Panel's performance standard[2] in mathematics:

	Proficient and above	
	1990	1992
Male	16%	18%
Female	10%	14%
American Indian/ Alaskan Native[3]	4%	4%
Asian/Pacific Islander	25%	31%
Black	2%	3%
Hispanic	4%	6%
White	16%	19%

[1] Interpret with caution. Data are from a representative national survey. The changes shown could be attributable to sampling error. In cases noted with an asterisk, we are confident that change has occurred.

[2] The Goals Panel's performance standard is "mastery over challenging subject matter" as indicated by performance at the Proficient or Advanced levels on the National Assessment of Educational Progress (NAEP). These levels were established by the National Assessment Governing Board (NAGB) and reported by the National Center for Education Statistics (NCES) in recent NAEP publications. A more complete description of the performance standard can be found in Appendix A.

[3] Should be interpreted with caution, since 1990 sample size does not allow accurate estimate of sample variability.

Source: National Center for Education Statistics, 1993.
This exhibit updates information presented in the 1992 Goals Report.

Grade 12 Sample NAEP Mathematics Items

EASY

- Example of an easy item on the 12th grade assessment:

  If k can be replaced by any number, how many different values can the expression $k + 6$ have?

  A None
  B One
  C Six
  D Seven
  (E) Infinitely many

- Average percentage of easy items answered correctly by 12th graders at three achievement levels in 1992:[1]

  Basic = 82% Proficient = 94% Advanced = 97%

MODERATE

- Example of a moderate item on the 12th grade assessment:

  Raymond must buy enough paper to print 28 copies of a report that contains 64 sheets of paper. Paper is only available in packages of 500 sheets. How many whole packages of paper will he need to buy to do the printing?

  Answer: 4

- Average percentage of moderate items answered correctly by 12th graders at three achievement levels in 1992:[1]

  Basic = 56% Proficient = 84% Advanced = 93%

CHALLENGING

- Example of a challenging item on the 12th grade assessment:

  If $f(x) = 4x^2 - 7x + 5.7$, what is the value of $f(3.5)$?

  Answer: 30.2

- Average percentage of challenging items answered correctly by 12th graders at three achievement levels in 1992:[1]

  Basic = 30% Proficient = 62% Advanced = 83%

VERY CHALLENGING

- Example of a very challenging item on the 12th grade assessment:

  This question requires you to show your work and explain your reasoning. You may use drawings, words, and numbers in your explanation.

  One plan for state income tax requires those persons with income of $10,000 or less to pay no tax and those persons with income greater than $10,000 to pay a tax of 6 percent only on the part of their income that exceeds $10,000. A person's *effective* tax rate is defined as the percent of total income that is paid in tax. Based on this definition, could any person's effective tax rate be 5 percent? Could it be 6 percent? Explain your answer. Include examples if necessary to justify your conclusions.

- Average percentage of very challenging items answered correctly by 12th graders at three achievement levels in 1992:[1]

  Basic = 9% Proficient = 31% Advanced = 62%

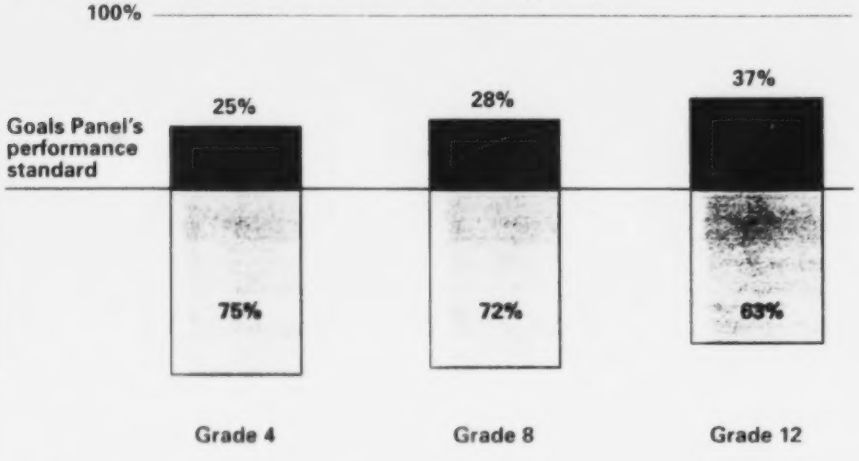
[1] Note: In 1992, over one-third of all 12th graders (36%) were unable to reach the lowest achievement level in mathematics (Basic). Definitions of the achievement levels can be found in Appendix A.

Exhibit 34

Reading Achievement

Percentages of 4th, 8th, and 12th graders who met the Goals Panel's performance standard[1] in reading, 1992

In 1992, approximately one out of every four students in Grades 4 and 8 met the Goals Panel's performance standard in reading. More than one-third of all 12th graders met the standard.



[1] The Goals Panel's performance standard is "mastery over challenging subject matter" as indicated by performance at the Proficient or Advanced levels on the National Assessment of Educational Progress (NAEP). These levels were established by the National Assessment Governing Board (NAGB) and reported by the National Center for Education Statistics (NCES) in recent NAEP publications. A more complete description of the performance standard can be found in Appendix A.

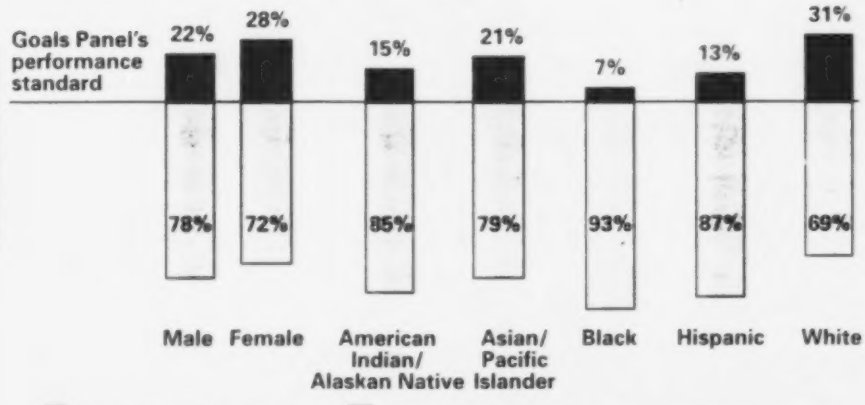
Source: National Center for Education Statistics, 1993

Exhibit 35

Reading Achievement – Grade 4

Percentage of 4th graders who met the Goals Panel's performance standard[1] in reading, 1992

In 1992, the percentage of 4th graders who met the Goals Panel's performance standard in reading ranged from 7% for Blacks to 31% for Whites.



[1] The Goals Panel's performance standard is "mastery over challenging subject matter" as indicated by performance at the Proficient or Advanced levels on the National Assessment of Educational Progress (NAEP). These levels were established by the National Assessment Governing Board (NAGB) and reported by the National Center for Education Statistics (NCES) in recent NAEP publications. A more complete description of the performance standard can be found in Appendix A.

Source: National Center for Education Statistics, 1993

Grade 4 Sample NAEP Reading Items

The passage is an informative article about how Amanda Clement became the first paid woman umpire on record.

EASY

- Example of an easy item on the 4th grade assessment:

  What obstacle did Mandy overcome in her baseball career?

  A The players did not respect her.
  B Baseball was not popular in Iowa.
  (C) Girls did not typically take part in sports.
  D She did not have very much experience at baseball.

- Average percentage of easy items answered correctly by 4th graders at three achievement levels in 1992:[1]

  Basic = 80% **Proficient = 91%** **Advanced = 95%**

MODERATE

- Example of a moderate item on the 4th grade assessment:

  Write a paragraph explaining how Mandy got her first chance to be an umpire at a public game.

- Average percentage of moderate items answered correctly by 4th graders at three achievement levels in 1992:[1]

  Basic = 61% **Proficient = 81%** **Advanced = 92%**

CHALLENGING

- Example of a challenging item on the 4th grade assessment:

  Give three examples showing that Mandy was not a quitter.

- Average percentage of challenging items answered correctly by 4th graders at three achievement levels in 1992:[1]

  Basic = 40% **Proficient = 62%** **Advanced = 81%**

VERY CHALLENGING

- Example of a very challenging item on the 4th grade assessment:

  If she were alive today, what question would you like to ask Mandy about her career? Explain why the answer to your question would be important to know.

- Average percentage of very challenging items answered correctly by 4th graders at three achievement levels in 1992:[1]

  Basic = 19% **Proficient = 35%** **Advanced = 57%**

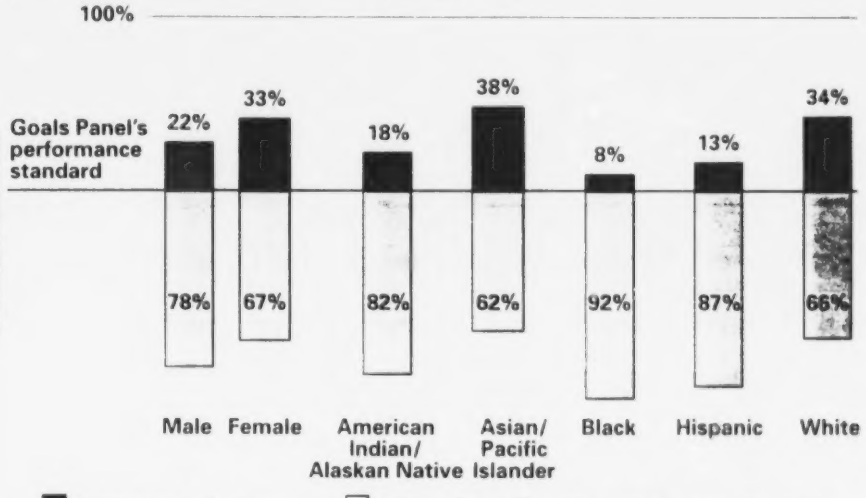
[1] Note: In 1992, approximately four out of ten 4th graders (41%) were unable to reach the lowest achievement level in reading (Basic). Definitions of the achievement levels can be found in Appendix A.

In 1992, the percentage of 8th graders who met the Goals Panel's performance standard in reading ranged from 8% for Blacks to 38% for Asians/Pacific Islanders.

Exhibit 36

Reading Achievement – Grade 8

Percentage of 8th graders who met the Goals Panel's performance standard[1] in reading, 1992



[1] The Goals Panel's performance standard is "mastery over challenging subject matter" as indicated by performance at the Proficient or Advanced levels on the National Assessment of Educational Progress (NAEP). These levels were established by the National Assessment Governing Board (NAGB) and reported by the National Center for Education Statistics (NCES) in recent NAEP publications. A more complete description of the performance standard can be found in Appendix A.

Source: National Center for Education Statistics, 1993

Grade 8 Sample NAEP Reading Items

This task required students to read and use an actual bus schedule that included tables, maps, and text.

EASY

- Example of an easy item on the 8th grade assessment:

  Lois wants to use the wheelchair lift. What telephone number should she call to arrange this?

  A 1-201-935-2500
  B 1-800-772-3606
  C 1-800-772-2287
  (D) 1-800-582-5946

- Average percentage of easy items answered correctly by 8th graders at three achievement levels in 1992:[1]

  Basic = 75% Proficient = 92% Advanced = 97%

MODERATE

- Example of a moderate item on the 8th grade assessment:

  How long does it take to ride from the intersection of Hanover and Broad to the intersection of Mulberry and Enterprise?

  A 5 minutes
  B 8 minutes
  (C) 13 minutes
  D 23 minutes

- Average percentage of moderate items answered correctly by 8th graders at three achievement levels in 1992:[1]

  Basic = 57% Proficient = 81% Advanced = 94%

CHALLENGING

- Example of a challenging item on the 8th grade assessment:

  As described in the explanation of how to use the schedule, which of the following schedule entries is an example of a "check point"?

  A Presidents' Day
  (B) Hanover and Broad
  C Northern New Jersey
  D W 6.25

- Average percentage of challenging items answered correctly by 8th graders at three achievement levels in 1992:[1]

  Basic = 39% Proficient = 64% Advanced = 85%

VERY CHALLENGING

- Example of a very challenging item on the 8th grade assessment:

  Now that you have looked carefully at the bus schedule, *use your notes* and make suggestions to help New Jersey Transit improve this schedule.

- Average percentage of very challenging items answered correctly by 8th graders at three achievement levels in 1992:[1]

  Basic = 15% Proficient = 33% Advanced = 61%

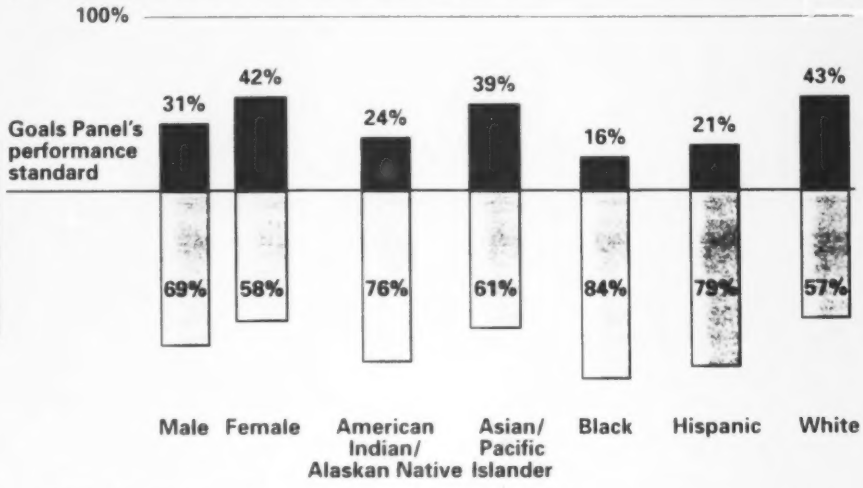
[1] Note: In 1992, nearly one-third of all 8th graders (31%) were unable to reach the lowest achievement level in reading (Basic). Definitions of the achievement levels can be found in Appendix A.

Exhibit 37

Reading Achievement – Grade 12

Percentage of 12th graders who met the Goals Panel's performance standard[1] in reading, 1992

In 1992, the percentage of 12th graders who met the Goals Panel's performance standard in reading ranged from 16% for Blacks to 43% for Whites.



[1] The Goals Panel's performance standard is "mastery over challenging subject matter" as indicated by performance at the Proficient or Advanced levels on the National Assessment of Educational Progress (NAEP). These levels were established by the National Assessment Governing Board (NAGB) and reported by the National Center for Education Statistics (NCES) in recent NAEP publications. A more complete description of the performance standard can be found in Appendix A.

Source: National Center for Education Statistics, 1993

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Grade 12 Sample NAEP Reading Items

Two passages related to the battle of Shiloh were combined. One passage was an encyclopedia entry about the battle and the other passage was a narrative account of the battle from one soldier's perspective.

EASY

- Example of an easy item on the 12th grade assessment:

  The night before the battle, Union and Confederate forces unknowingly camped a short distance from each other

  A near Manassas, Virginia
  B in "The Hornets' Nest"
  (C) near the Tennessee River
  D near Owl Creek

- Average percentage of easy items answered correctly by 12th graders at three achievement levels in 1992:[1]

  Basic = 78% **Proficient = 91%** **Advanced = 97%**

MODERATE

- Example of a moderate item on the 12th grade assessment:

  How could reading these two sources help a student learn about the battle of Shiloh?

- Average percentage of moderate items answered correctly by 12th graders at three achievement levels in 1992:[1]

  Basic = 61% **Proficient = 80%** **Advanced = 93%**

CHALLENGING

- Example of a challenging item on the 12th grade assessment:

  Identify two conflicting emotions displayed by the Union officer in his journal entry. Explain why you think the battle of Shiloh caused him to have these conflicting feelings.

- Average percentage of challenging items answered correctly by 12th graders at three achievement levels in 1992:[1]

  Basic = 42% **Proficient = 64%** **Advanced = 84%**

VERY CHALLENGING

- Example of a very challenging item on the 12th grade assessment:

  On the basis of information contained in the two passages, decide whether or not you think the United States should ever again engage in a civil war. Explain your answer using examples from what you have learned and read about war.

- Average percentage of very challenging items answered correctly by 12th graders at three achievement levels in 1992:[1]

  Basic = 22% **Proficient = 40%** **Advanced = 65%**

[1] Note: In 1992, one-fourth of all 12th graders (25%) were unable to reach the lowest achievement level in reading (Basic). Definitions of the achievement levels can be found in Appendix A.

Average Writing Score

	1984	1990	Change[1]
Grade 4			
All students	179	183	NS
Black	154	155	NS
Hispanic	163	168	NS
White	186	191	NS
Grade 8			
All students	206	198	–
Black	190	182	NS
Hispanic	191	189	NS
White	210	202	–
Grade 11			
All students	212	212	NS
Black	195	194	NS
Hispanic	188	198	NS
White	218	217	NS

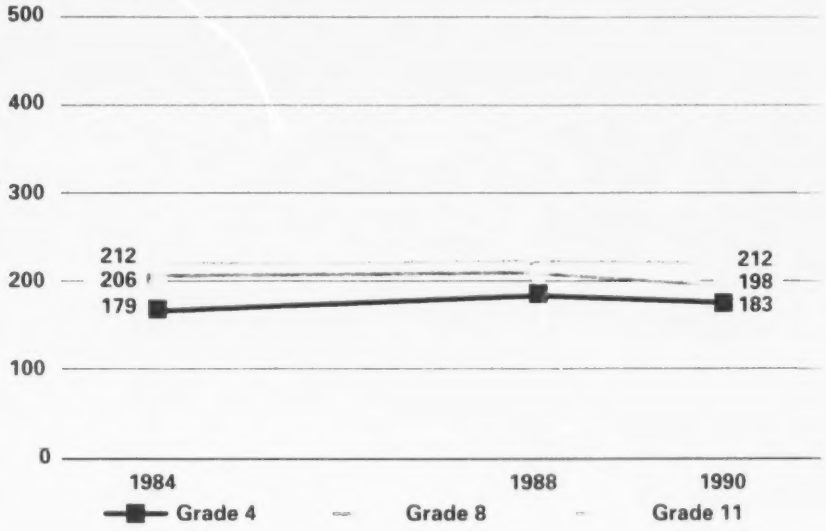
[1] + means statistically significant increase.
– means statistically significant decrease.
NS means no statistically significant change.

Average writing scores for 4th and 11th graders remained relatively unchanged between 1984 and 1990, while the average score for 8th graders declined.

Exhibit 38

Trends in Writing Proficiency

Average writing score[1] on a scale of 0 to 500 for students in Grades 4, 8, and 11, 1984 to 1990



[1] Complete descriptions of each level can be found in Appendix A

Source: National Center for Education Statistics, 1991
This exhibit repeats information presented in the 1992 Goals Report

Average Science Score

	1977	1990	Change[1]
Age 9			
All students	220	229	+
Black	175	196	+
Hispanic	192	206	+
White	230	238	+
Age 13			
All students	247	255	+
Black	208	226	+
Hispanic	213	232	+
White	256	264	+
Age 17			
All students	290	290	NS
Black	240	253	+
Hispanic	262	262	NS
White	298	301	NS

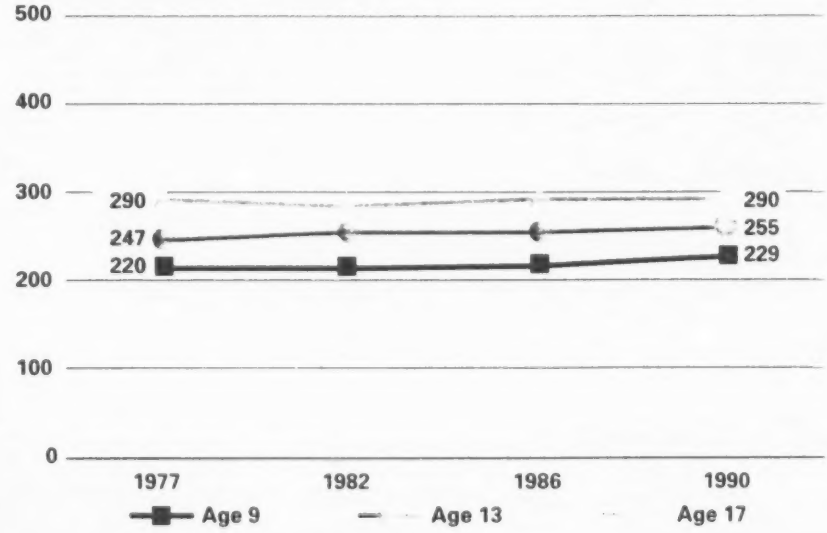
[1] + means statistically significant increase.
– means statistically significant decrease.
NS means no statistically significant change.

Average science scores for 9- and 13-year-olds increased between 1977 and 1990. The average score for 17-year-olds remained the same.

Exhibit 39

Trends in Science Proficiency

Average science score[1] on a scale of 0 to 500 for students 9, 13, and 17 years old, 1977 to 1990



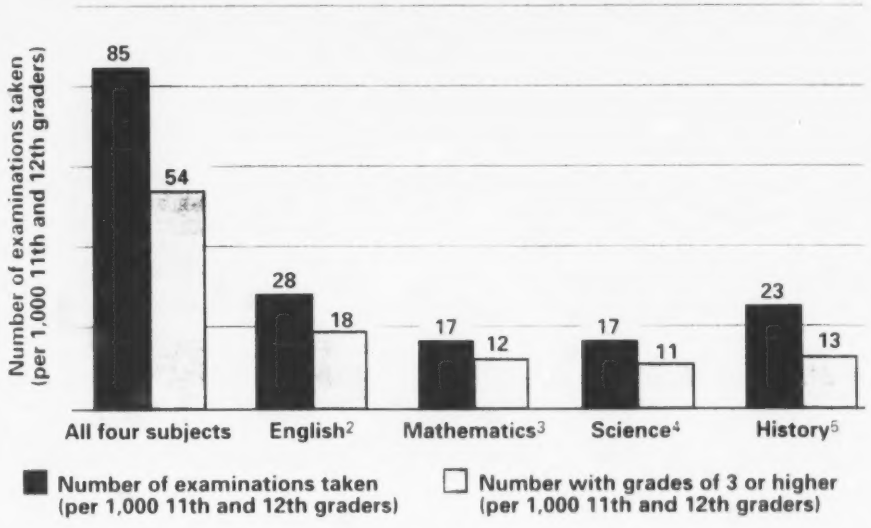
[1] Complete descriptions of each level can be found in Appendix A

Source: National Center for Education Statistics, 1991
This exhibit repeats information presented in the 1992 Goals Report

Exhibit 40

Advanced Placement Results – English, Mathematics, Science, and History

Number of examinations taken (per 1,000 11th and 12th graders), and number receiving grades of 3 or higher,[1] 1993



For every 1,000 11th and 12th graders enrolled in 1993, 85 Advanced Placement examinations were taken in English, mathematics, science, and history. Nearly two-thirds were graded at 3 or above, which is generally high enough to make students eligible for college credit.

[1] A grade of 3 or higher is generally high enough to make students eligible for college credit.
[2] Includes Language & Composition and Literature & Composition.
[3] Includes Calculus AB and Calculus BC.
[4] Includes Biology, Chemistry, Physics B, Physics C (Mechanics), and Physics C (Electricity and Magnetism).
[5] Includes U.S. History and European History.

Change Since 1991

Number of Advanced Placement examinations taken (per 1,000 11th and 12th graders), and number receiving grades of 3 or higher:

	Total number taken[1]		Number with grades below 3		Number with grades of 3 or higher	
	1991	1993	1991	1993	1991	1993
All four subjects	72	85	26	31	45	54
English	23	28	8	10	16	18
Mathematics	15	17	5	5	10	12
Science	13	17	5	6	9	11
History	20	23	9	10	11	13

[1] Numbers with grades of 3 or higher and numbers with grades below 3 may not always add to total number taken due to rounding.

Between 1991 and 1993, the number of Advanced Placement examinations taken (per 1,000 11th and 12th graders) in English, mathematics, science, and history increased from 72 to 85. The number with grades of 3 or higher (per 1,000 11th and 12th graders) increased by nine.

Source: The College Board, 1991 and 1993.
This exhibit updates information presented in the 1992 Goals Report.

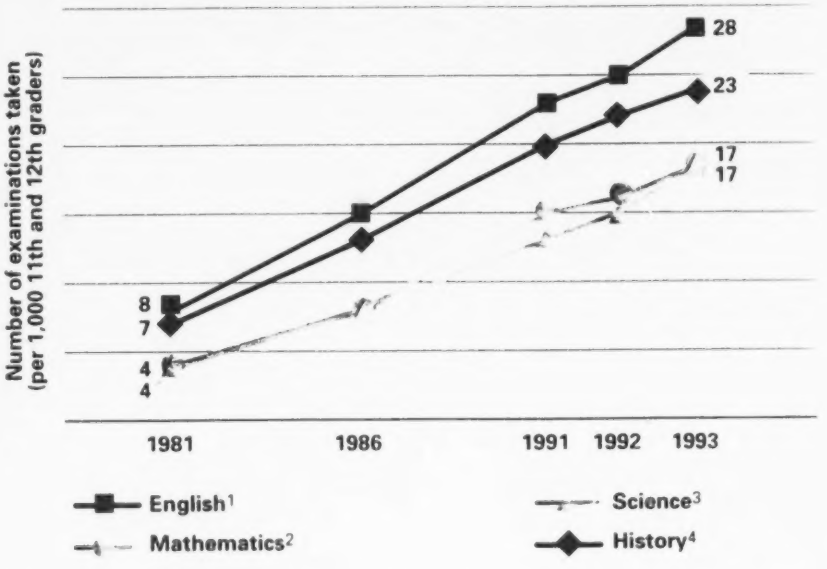
	1986	1993	% Change
Total	262,454	471,411	80%
American Indian/ Alaskan Native	607	1,989	228%
Asian/Pacific Islander	22,957	64,026	179%
Black	6,892	18,789	173%
Hispanic	6,442	20,417	217%
White	187,851	326,151	74%
Other/Not Stated	37,705	40,039	6%

Between 1986 and 1993, the numbers of Advanced Placement examinations taken in English, mathematics, science, and history increased by 80%. Rates of increase were greatest among minority groups.

Exhibit 41

Trends in Advanced Placement Examinations – English, Mathematics, Science, and History

Number of examinations taken (per 1,000 11th and 12th graders), 1981 to 1993



[1] Includes Language & Composition and Literature & Composition.
[2] Includes Calculus AB and Calculus BC.
[3] Includes Biology, Chemistry, Physics B, Physics C (Mechanics), and Physics C (Electricity and Magnetism).
[4] Includes U.S. History and European History

Source: The College Board, various years
This exhibit updates information presented in the 1992 Goals Report.

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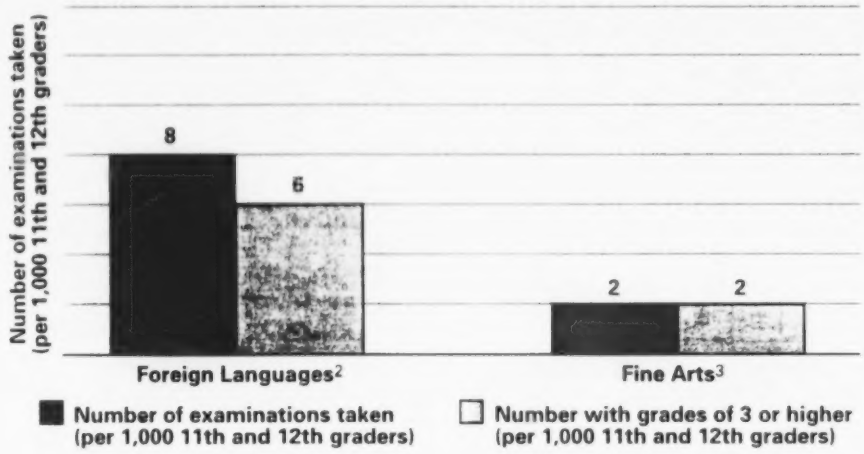
Exhibit 42

Advanced Placement Results – Foreign Languages and Fine Arts

Number of examinations taken (per 1,000 11th and 12th graders) in foreign languages and fine arts, and number receiving grades of 3 or higher,[1] 1993


Number of examinations taken (per 1,000 11th and 12th graders)
8
6
2
2
Foreign Languages[2]
Fine Arts[3]
Number of examinations taken (per 1,000 11th and 12th graders)
Number with grades of 3 or higher (per 1,000 11th and 12th graders)

For every 1,000 11th and 12th graders enrolled in 1993, eight Advanced Placement examinations were taken in foreign languages and two were taken in fine arts.

[1] A grade of 3 or higher is generally high enough to make students eligible for college credit.
[2] Includes French Language, French Literature, Spanish Language, Spanish Literature, and German.
[3] Includes Art History, Studio Art (Drawing and General), and Music Theory. Note: The non-rounded number of fine arts examinations taken and the number with grades of 3 or higher (per 1,000 11th and 12th graders) were 2.1 and 1.6, respectively.

Change Since 1991

Number of Advanced Placement examinations taken (per 1,000 11th and 12th graders) in foreign languages and fine arts, and number receiving grades of 3 or higher:

	Total number taken[1]		Number with grades below 3		Number with grades of 3 or higher	
	1991	1993	1991	1993	1991	1993
Foreign languages	7	8	2	2	5	6
Fine arts	2	2	<1	<1	1	2

[1] Numbers with grades of 3 or higher and numbers with grades below 3 may not always add to total number taken due to rounding.

Between 1991 and 1993, the number of Advanced Placement examinations taken (per 1,000 11th and 12th graders) in foreign languages increased from seven to eight, while the number taken in fine arts remained at two. The number with grades of 3 or higher (per 1,000 11th and 12th graders) increased by one in both subject areas.

Source: The College Board, 1991 and 1993
This exhibit updates information presented in the 1992 Goals Report.

Foreign Languages

	1986	1993	% Change
Total	21,284	44,364	108%
American Indian/ Alaskan Native	28	96	243%
Asian/Pacific Islander	1,336	4,330	224%
Black	485	1,215	151%
Hispanic	2,876	12,870	347%
White	13,207	21,771	65%
Other/Not Stated	3,352	4,082	22%

Fine Arts

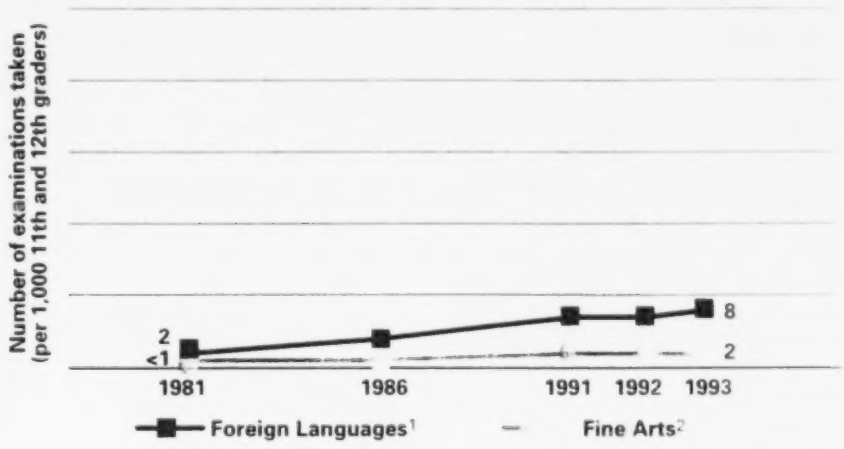
	1986	1993	% Change
Total	4,069	11,775	189%
American Indian/ Alaskan Native	23	75	226%
Asian/Pacific Islander	300	1,438	379%
Black	105	422	302%
Hispanic	142	697	391%
White	2,755	7,925	188%
Other/Not Stated	744	1,218	64%

Between 1986 and 1993, the number of Advanced Placement examinations taken (per 1,000 11th and 12th graders) in foreign languages more than doubled, and the number taken in fine arts nearly tripled.

Exhibit 43

Trends in Advanced Placement Examinations – Foreign Languages and Fine Arts

Number of examinations taken (per 1,000 11th and 12th graders) in foreign languages and fine arts, 1981 to 1993



[1] Includes French Language, French Literature, Spanish Language, Spanish Literature, and German
[2] Includes Art History, Studio Art (Drawing and General), and Music Theory

Source: The College Board, various years
This exhibit updates information presented in the 1992 Goals Report.

Exhibit 44

Knowledge of Civics

Percentages of 4th, 8th, and 12th graders scoring at or above four levels,[1] 1988

	Level 200	Level 250	Level 300	Level 350
Grade 4				
All Students	**71%**	**10%**	**<1%**	**<1%**
Black	**49%**	**2%**	**<1%**	**<1%**
Hispanic	**51%**	**4%**	**<1%**	**<1%**
White	**80%**	**12%**	**<1%**	**<1%**
Grade 8				
All Students	**94%**	**61%**	**13%**	**<1%**
Black	**91%**	**41%**	**4%**	**<1%**
Hispanic	**89%**	**41%**	**3%**	**<1%**
White	**96%**	**69%**	**16%**	**1%**
Grade 12				
All Students	**99%**	**89%**	**49%**	**6%**
Black	**97%**	**77%**	**23%**	**1%**
Hispanic	**98%**	**79%**	**30%**	**3%**
White	**99%**	**93%**	**55%**	**7%**

[1] Examples of what students performing at various levels of the National Assessment of Educational Progress typically know and can do:

- Level 200: Recognize the existence of civic life
- Level 250: Understand the nature of political institutions and the relationship between citizen and government
- Level 300: Understand specific government structures and functions
- Level 350: Understand a variety of political institutions and processes

Complete descriptions of each level can be found in Appendix A.

In 1988, nearly all 12th graders had a basic knowledge of civics, such as elections, laws, and constitutional rights. However, only about half understood specific government structures and functions, such as separation of powers, and only 6% had a detailed knowledge of institutions of government, such as the Cabinet and the judiciary.

Source: Educational Testing Service, 1990
This exhibit repeats information presented in the 1992 Goals Report.

In 1992, 44% of 12th graders reported that they performed community service during the past two years.

Exhibit 45

Community Service

Percentage of 12th graders reporting that they performed community service during the past two years, 1992

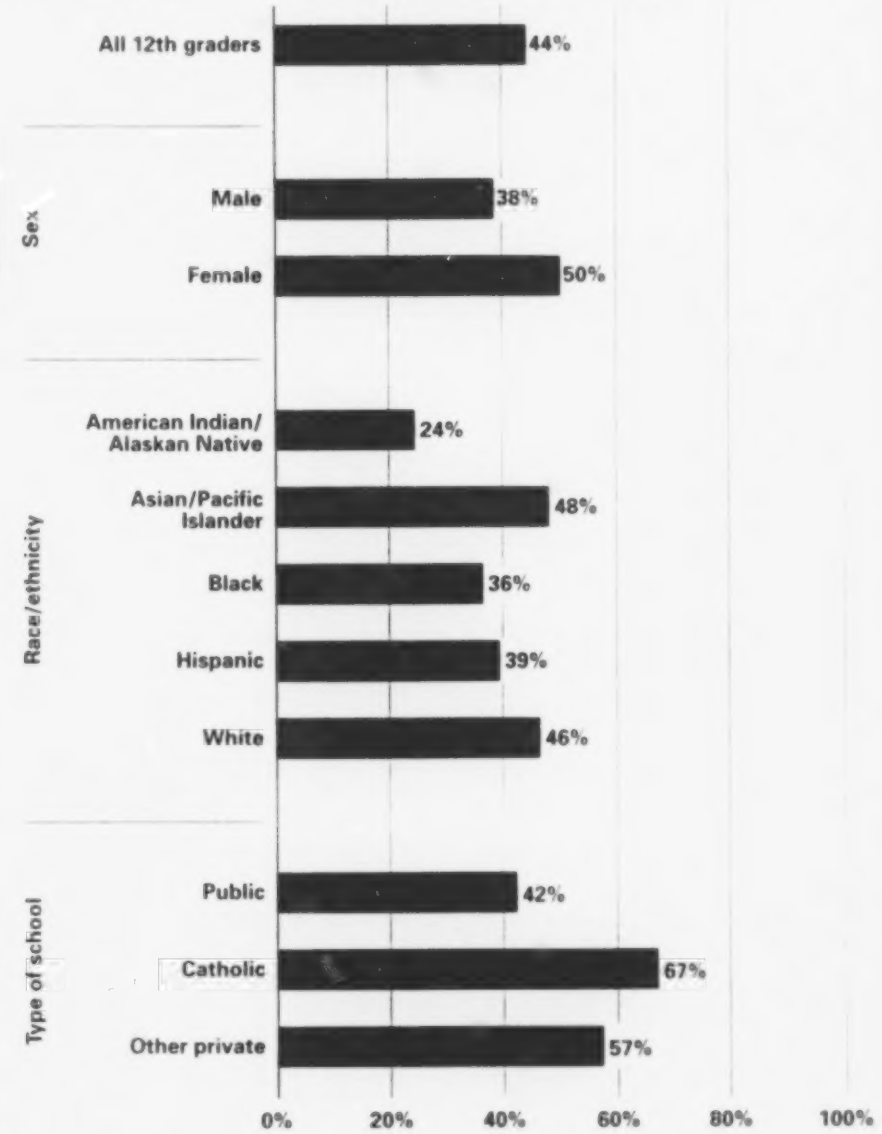
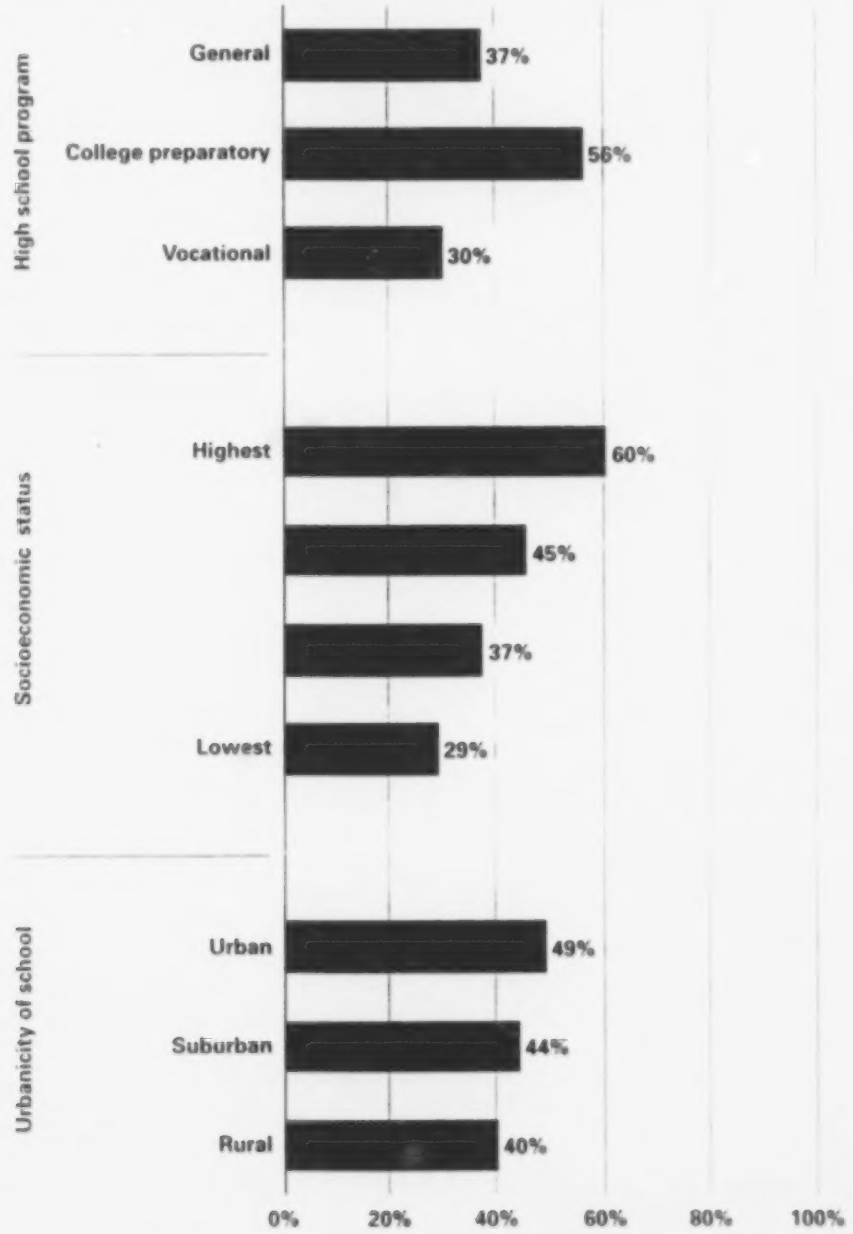


Exhibit 45 (continued)

Community Service

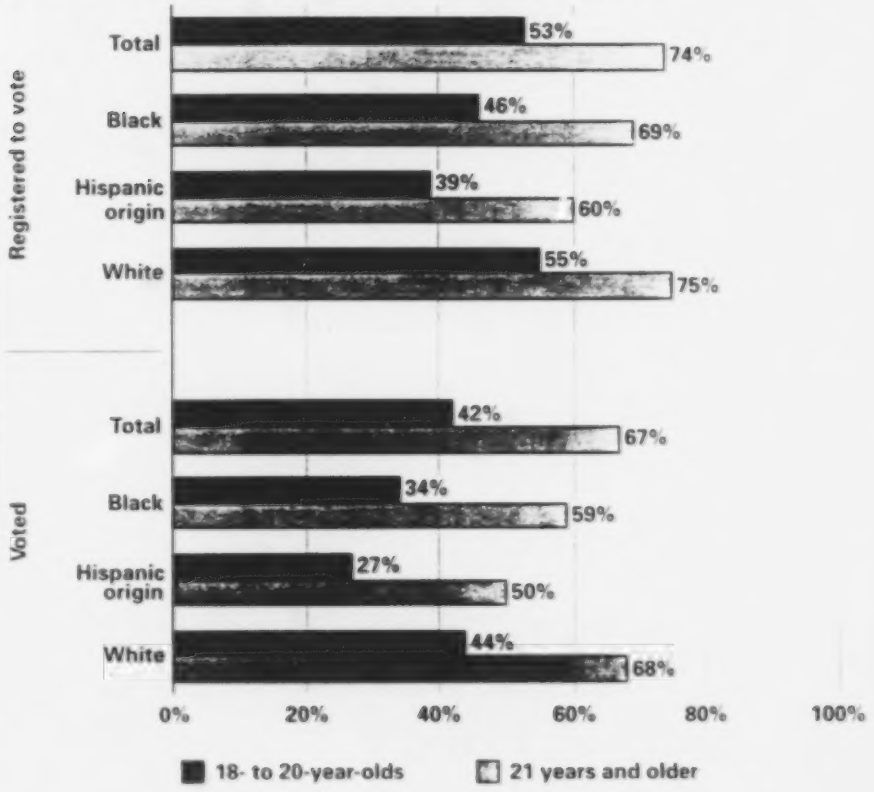
Percentage of 12th graders reporting that they performed community service during the past two years, 1992



Source: National Center for Education Statistics, 1993

Exhibit 46
Young Adult Voter Registration and Voting

Percentage of all U.S. citizens 18 to 20 years old and 21 years and older who registered to vote and who voted, 1992



Voter registration and voting are more common practices among older populations than among younger ones. In 1992, 53% of all U.S. citizens 18 to 20 years old were registered to vote, compared to nearly three-fourths of those 21 years and older. Forty-two percent of 18- to 20-year-olds actually voted, while 67% of those 21 and older voted.

Between 1988 and 1992, rates of voter registration and voting increased among 18- to 20-year-olds as well as among adults aged 21 and older.

Change Since 1988[1]

Percentage of all U.S. citizens 18 to 20 years old and 21 years and older who registered to vote and who voted:

	18- to 20-year-olds				21 and older			
	Registered to vote		Voted		Registered to vote		Voted	
	1988	1992	1988	1992	1988	1992	1988	1992
All	48	53 *	35	42 *	72	74 *	62	67 *
Black	45	46	29	34	69	69	56	59 *
Hispanic	36	39	23	27	59	60	48	50
White	48	55 *	36	44 *	73	75 *	63	68 *

[1] Interpret with caution. Data are from a representative national survey. The changes shown could be attributable to sampling error. In cases noted with an asterisk, we are confident that change has occurred.

Source: Bureau of the Census, 1989 and 1993.
This exhibit updates information presented in the 1992 Goals Report.

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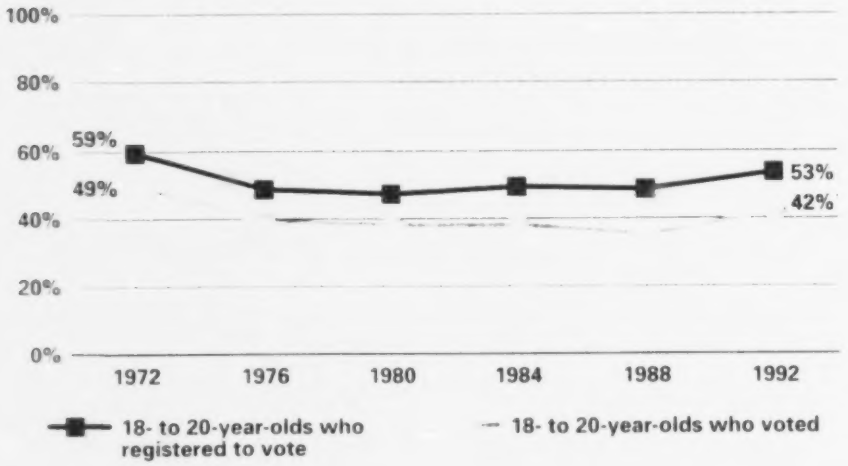
Exhibit 47

Trends in Young Adult Voter Registration and Voting

Percentage of all U.S. citizens 18 to 20 years old who registered to vote and who voted, 1972 to 1992



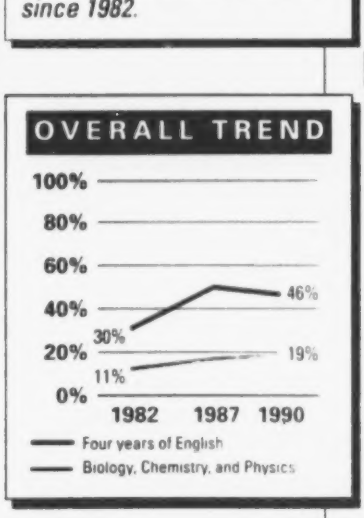
Between 1972 and 1976, the percentage of 18- to 20-year-olds who registered to vote and who actually voted dropped substantially. Rates remained fairly steady until 1988, then increased in 1992.

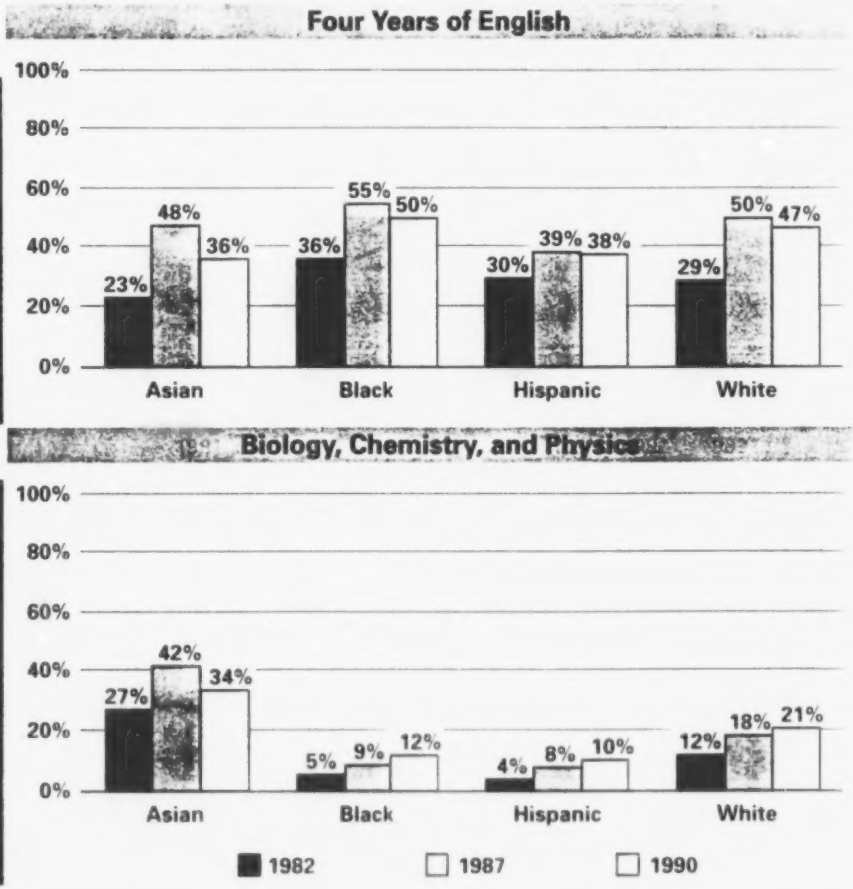
Source: Bureau of the Census, various years
This exhibit updates information presented in the 1992 Census Report

Exhibit 48
High School Course Completion – English and Science

Percentage of high school graduates who completed selected English and science courses, 1982, 1987, and 1990

Between 1982 and 1987, the percentage of high school graduates who completed four years of English rose sharply, then dropped slightly in 1990. The percentage of students who completed the sequence of Biology, Chemistry, and Physics has continued to increase slowly since 1982.





Change Since 1987[1]

	Four years of English		Biology, Chemistry, and Physics	
	1987	1990	1987	1990
All	49	46	17	19
Asian	48	36	42	34
Black	55	50	9	12
Hispanic	39	38	8	10
White	50	47	18	21 *

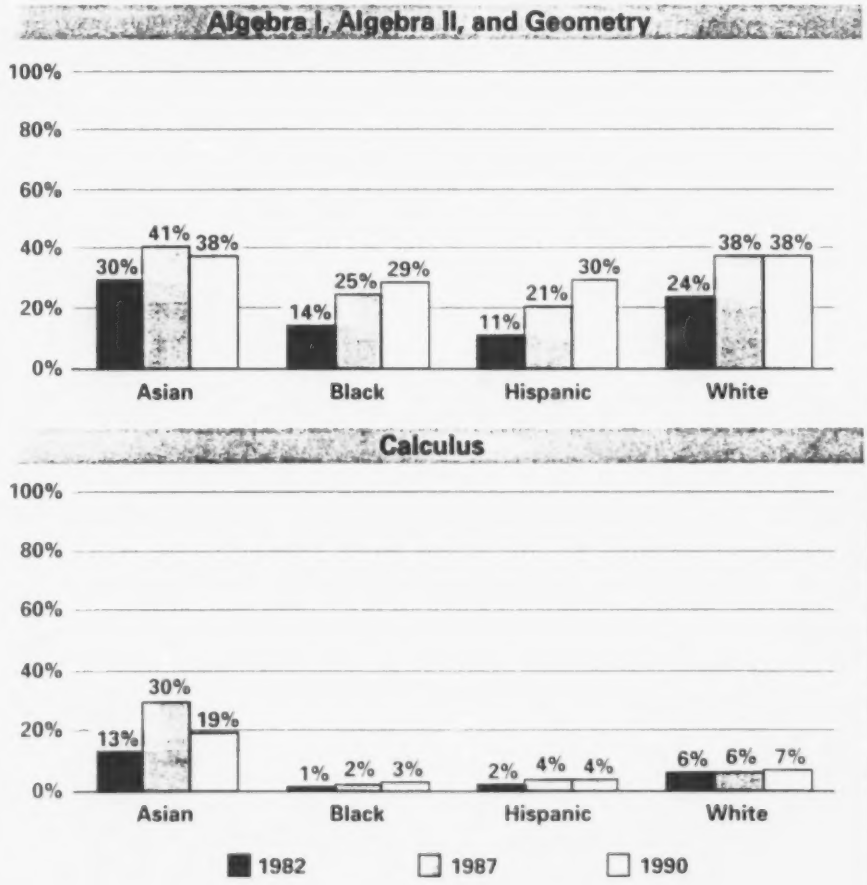
[1] Interpret with caution. Data are from a representative national survey. The changes shown could be attributable to sampling error. In cases noted with an asterisk, we are confident that change has occurred.

Source: National Center for Education Statistics, 1993
This exhibit updates information presented in the 1992 Goals Report

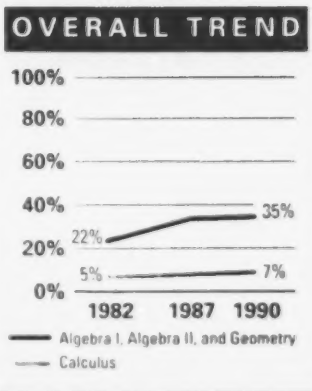
Exhibit 49

High School Course Completion – Mathematics

Percentage of high school graduates who completed selected mathematics courses, 1982, 1987, and 1990



Between 1982 and 1987, the percentage of high school graduates who had completed the sequence of Algebra I, Algebra II, and Geometry increased substantially. Since 1987, the percentage has remained constant. During the same period (1982-1990), the percentage of high school graduates who had completed Calculus increased slightly.



Change Since 1987[1]

	Algebra I, Algebra II, and Geometry		Calculus	
	1987	1990	1987	1990
All	34	35	6	7
Asian	41	38	30	19
Black	25	29	2	3
Hispanic	21	30 *	4	4
White	38	38	6	7

[1] Interpret with caution. Data are from a representative national survey. The changes shown could be attributable to sampling error. In cases noted with an asterisk, we are confident that change has occurred.

Source: National Center for Education Statistics, 1993
This exhibit updates information presented in the 1992 Goals Report.

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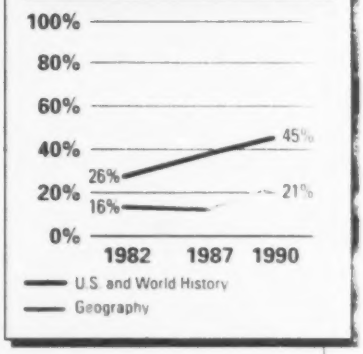
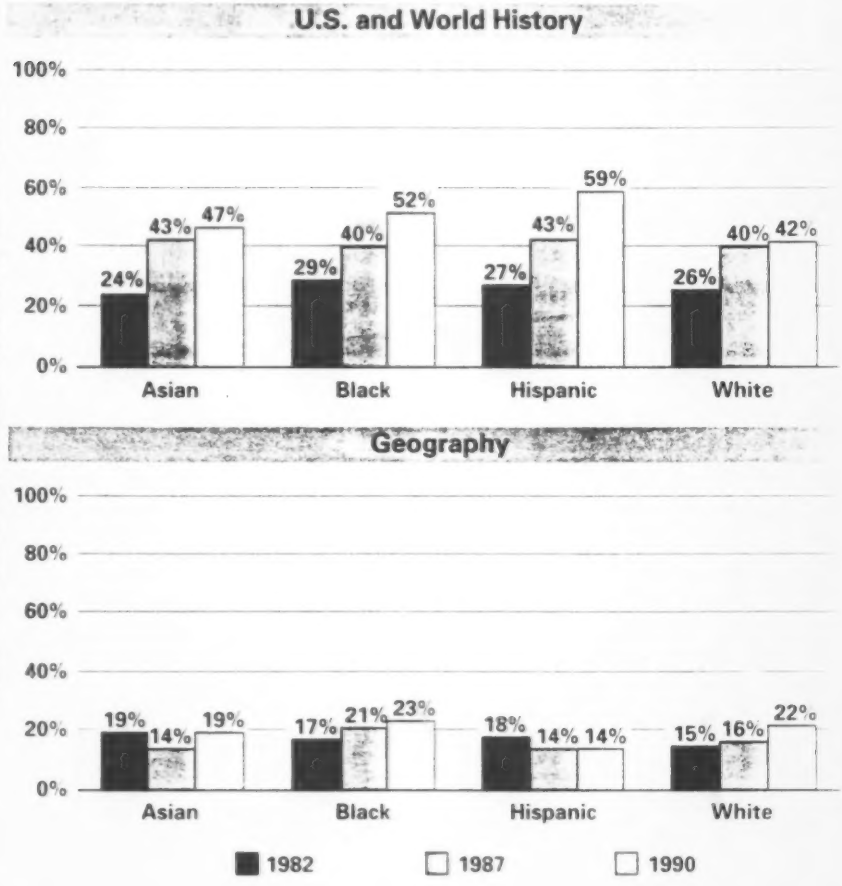
Exhibit 50

High School Course Completion – History and Geography

Percentage of high school graduates who completed selected history and geography courses, 1982, 1987, and 1990

Since 1982, the percentages of high school graduates who completed courses in U.S. and World History and Geography have increased substantially.





Between 1987 and 1990, the percentage of high school graduates who completed courses in Geography has increased.

Change Since 1987[1]

	U.S. and World History		Geography	
	1987	1990	1987	1990
All	39	45	15	21 *
Asian	43	47	14	19
Black	40	52	21	23
Hispanic	43	59 *	14	14
White	40	42	16	22 *

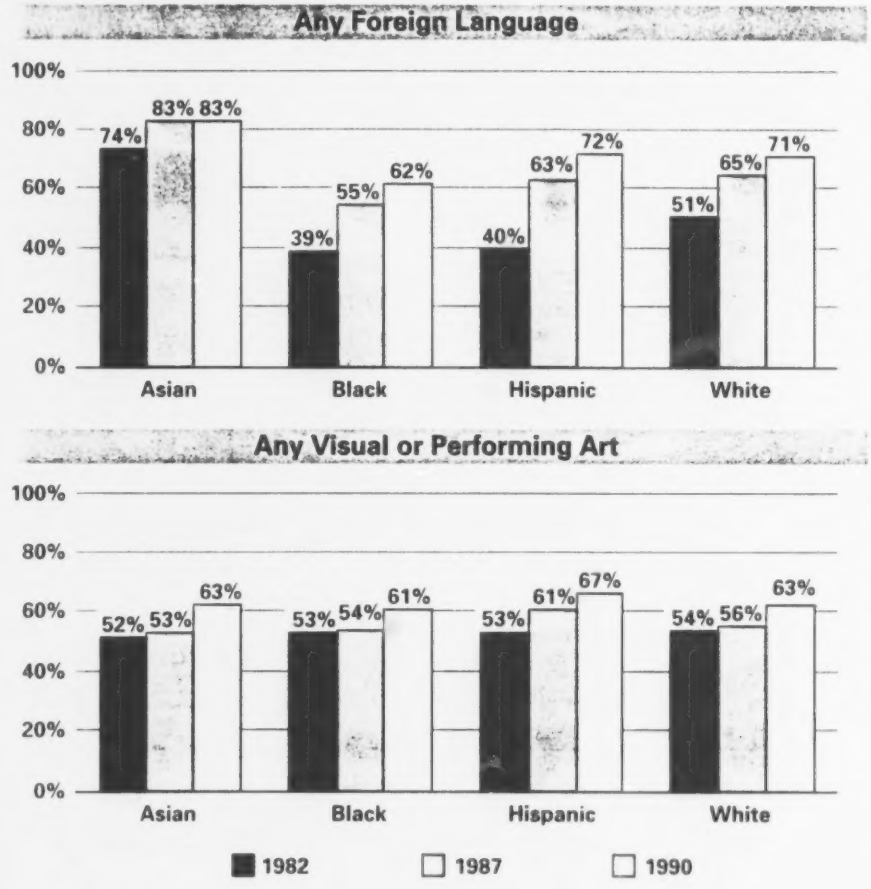
[1] Interpret with caution. Data are from a representative national survey. The changes shown could be attributable to sampling error. In cases noted with an asterisk, we are confident that change has occurred.

Source: National Center for Education Statistics, 1993.
This exhibit updates information presented in the 1992 Goals Report.

Exhibit 51

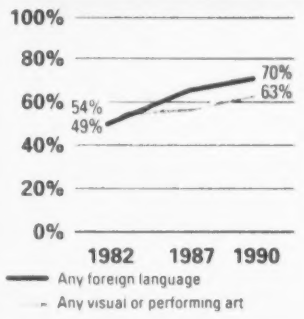
High School Course Completion – Foreign Languages and Fine Arts

Percentage of high school graduates who completed foreign language and fine arts courses, 1982, 1987, and 1990



Between 1982 and 1990, the percentages of high school graduates who completed foreign language and fine arts courses have increased markedly.

OVERALL TREND



Change Since 1987[1]

	Foreign Languages		Visual or Performing Arts	
	1987	1990	1987	1990
All	65	70 *	57	63 *
Asian	83	83	53	63 *
Black	55	62	54	61
Hispanic	63	72 *	61	67
White	65	71 *	56	63 *

[1] Interpret with caution. Data are from a representative national survey. The changes shown could be attributable to sampling error. In cases noted with an asterisk, we are confident that change has occurred.

Between 1987 and 1990, the percentages of high school graduates who had completed foreign language and fine arts courses increased.

Source: National Center for Education Statistics, 1993
This exhibit updates information presented in the 1992 Goals Report.

Type of High School Program Attended

Males

	1972	1980	1992
Academic/ College prep	49%	39%	47%
General	33%	38%	41%
Vocational	18%	23%	12%

Females

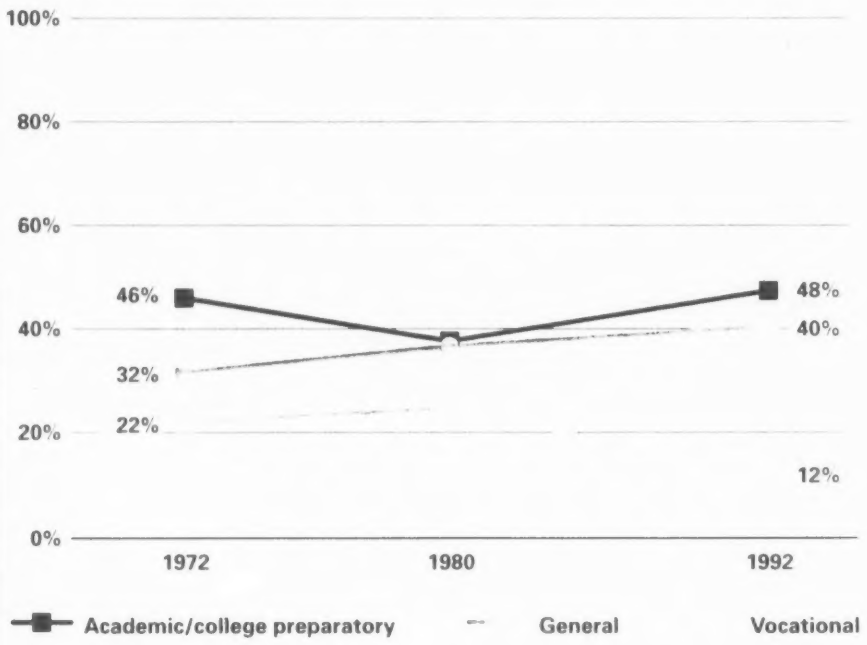
	1972	1980	1992
Academic/ College prep	44%	38%	49%
General	30%	36%	39%
Vocational	26%	26%	12%

Between 1972 and 1980, the percentage of high school seniors enrolled in an academic or college preparatory program decreased 8 percentage points. However, by 1992, the percentage had risen slightly higher than its 1972 level. The percentage of female students enrolled in academic or college preparatory programs has increased 5 percentage points over the past twenty years, compared to a decrease of 2 percentage points for males.

Exhibit 52

High School Programs Attended

Percentage of high school seniors who reported being enrolled in the following programs, 1972 to1992



Source: National Center for Education Statistics, 1993

GOAL 4

Science and Mathematics

2000

1993

GOAL 4

Science and Mathematics

Introduction

Nearly every day the front page of a newspaper or the evening television news describes an event that requires clear, informed thinking about science or mathematics. While it is important for us to be knowledgeable in a broad range of subjects, science and mathematics are particularly vital in the decisions we make in jobs, use of resources, health, and everyday consumer activities. Our nation's ability to compete globally rests upon strong science and mathematics skills and our ability to apply this knowledge to emerging technologies. That is why Goal 4 is unequivocal — it sets the very highest standard possible.

Yet positive student attitudes about science and mathematics decline precipitously as students grow older. International and national assessments reflect this loss. Our 9-year-olds perform relatively well in science and mathematics, but by age 13 their knowledge of mathematics and science is well behind that of students from countries in both Europe and Asia.

Surveys of students and parents indicate a prevailing attitude in this country that science and mathematics are not important subjects for most students and that high achievement results from something other than hard work.

Contributing to this attitude is a long-term tendency of American schools to minimize the importance of science and mathematics instruction, especially in the early grades. Only 15 percent of all 4th graders, for example, receive instruction from a teacher who has been specially trained to teach mathematics. Less than one-fourth of elementary teachers feel qualified to teach specific sciences. Even at the high school level, about 20 percent of science teachers and 30 percent of mathematics teachers have degrees outside the fields in which they are teaching.

Outmoded instruction may also play a part in why students gradually lose interest in science and mathematics. Three years ago the National Council of Teachers of Mathematics recommended that all students should use computers and calculators in their classes. According to data in this Goals Report, computers are becoming more available in the early grades and calculator use has become more widespread in the middle grades. Even so, only 56% of 8th graders regularly use calculators and only 20% have computers in their classrooms. And despite the fact that Algebra is the gateway subject to more advanced mathematics, less than half of all 8th graders (48%) currently attend classes that heavily emphasize this topic.

For our students to be well-informed and competent, science and mathematics knowledge must become "basic" in this country. It is as important for individuals as it is for the nation as a whole if we are to prosper. This is why so much effort is going into developing higher curriculum standards for all students in science and mathematics, ones that foster critical thinking, application of knowledge, and integration of technology. The goal is to be more than just adequate. It is to be excellent, to be the best.

GOAL 4

Science and Mathematics

By the year 2000, U.S. students will be first in the world in science and mathematics achievement.

Objectives

- Math and science education will be strengthened throughout the system, especially in the early grades.
- The number of teachers with a substantive background in mathematics and science will increase by 50 percent.
- The number of U.S. undergraduate and graduate students, especially women and minorities, who complete degrees in mathematics, science, and engineering will increase significantly.

GOAL 4

Science and Mathematics

What we have learned since the 1992 Report

The 1993 Goals Report presents updates in mathematics instructional practices in Grades 4 and 8, priority of mathematics in schools, trends in Advanced Placement science and mathematics examinations, degrees earned in science, mathematics, and engineering, and student attitudes toward mathematics.

Direct Measures of the Objectives

Strengthening Science and Mathematics Education

In 1992, teachers reported that substantial numbers of 4th and 8th graders were not receiving the kind of instruction recommended by mathematics education experts, such as working with mathematics tools and equipment, developing reasoning and problem-solving skills, and learning to communicate mathematics ideas. (See Exhibits 56 and 58.)

Between 1990 and 1992, the percentage of 8th graders whose teachers reported that they used calculators in mathematics class at least once a week increased 14 percentage points. (See Exhibit 58.)

During the past seven years, the number of Advanced Placement examinations taken in science has increased 64% in Biology, 83% in Chemistry, and 129% in Physics; the total number taken in Calculus nearly doubled. (See Exhibits 62 and 63.)

Degrees Awarded in Science, Mathematics, and Engineering

In 1991, 137 science degrees and 5 mathematics degrees (per 1,000 22-year-olds) were awarded to U.S. citizens. Between 1989 and 1991, increases in science degrees awarded were greatest among females and Blacks. (See Exhibit 66.)

GOAL 4

Science and Mathematics

American students earned over half a million science degrees in 1991, and over 17,000 degrees in mathematics. The combined number of undergraduate and graduate degrees earned by females increased 13% in science (versus a 9% decrease for males) between 1979 and 1991; the combined number earned in mathematics increased 5% for males and 35% for females. (See Exhibits 67 and 68.)

Between 1979 and 1991, the combined numbers of undergraduate and graduate degrees earned in science increased for American Indian/Alaskan Native, Asian/Pacific Islander, and Hispanic students, but decreased slightly for Black and White students. The combined numbers of degrees earned in mathematics increased for students in every racial/ethnic group. (See Exhibits 69 and 70.)

What we still need to know

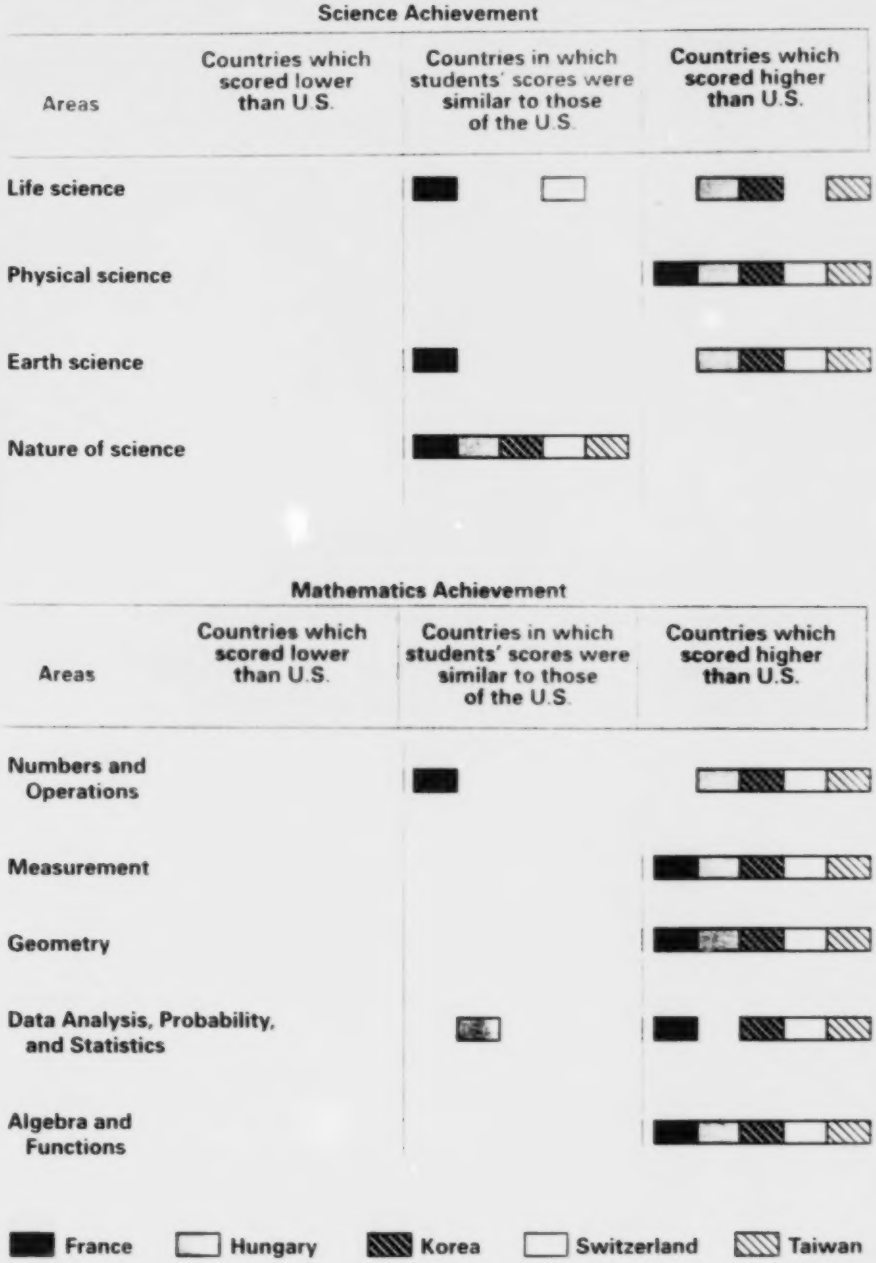
We still need internationally benchmarked standards of student achievement in mathematics and science by which to compare our students with students from other countries reliably. In the interim, the Panel will continue to report the best available international data and encourage and monitor the development of valid, reliable, internationally comparable measures. The Goals Panel will promote research that delineates comparable standards in mathematics and science around the world and assessments that reflect those standards.

American 13-year-olds were outperformed by students in Hungary, Korea, and Taiwan in three out of four areas tested in an international science assessment in 1991. American students were also outperformed by students in Korea, Switzerland, and Taiwan in all areas tested in a 1991 international mathematics assessment, and by students in France and Hungary in four out of the five areas tested.

Exhibit 53

International Science and Mathematics Achievement Comparisons

Performance of 13-year-olds from five countries[1] in relation to U.S., 1991



[1] Students from Brazil, Canada, China, England, Ireland, Israel, Italy, Jordan, Mozambique, Portugal, Scotland, Slovenia, the former Soviet Union, and Spain also participated in this assessment.

Source: Educational Testing Service, 1992.
This exhibit repeats information presented in the 1992 Goals Report.

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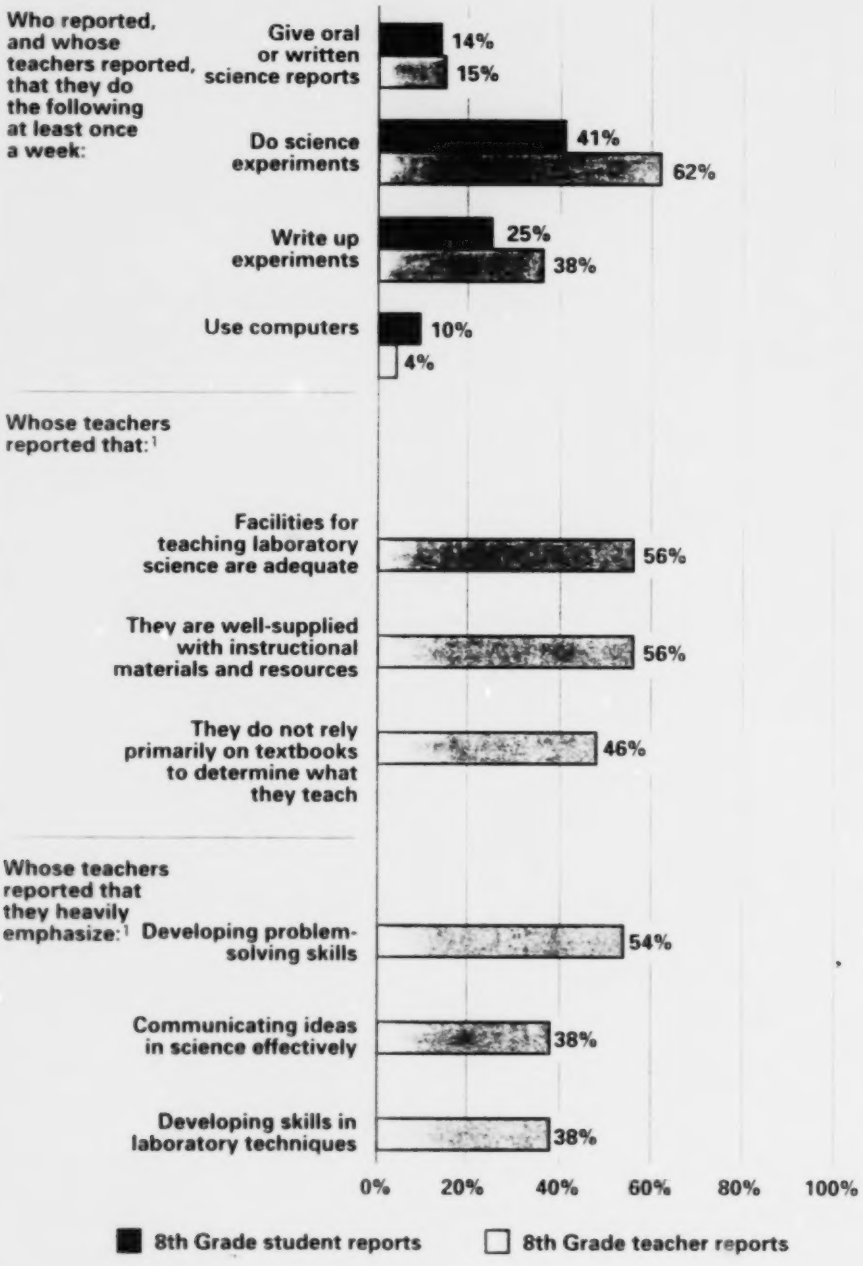
Exhibit 54
Science Instructional Practices
Percentage of 8th graders, 1990



In 1990, most students were not receiving the kinds of instruction needed to apply science ideas outside of the classroom, and many teachers did not have adequate facilities or supplies to pursue these types of instruction.

[1] This information was not collected from 8th grade students.

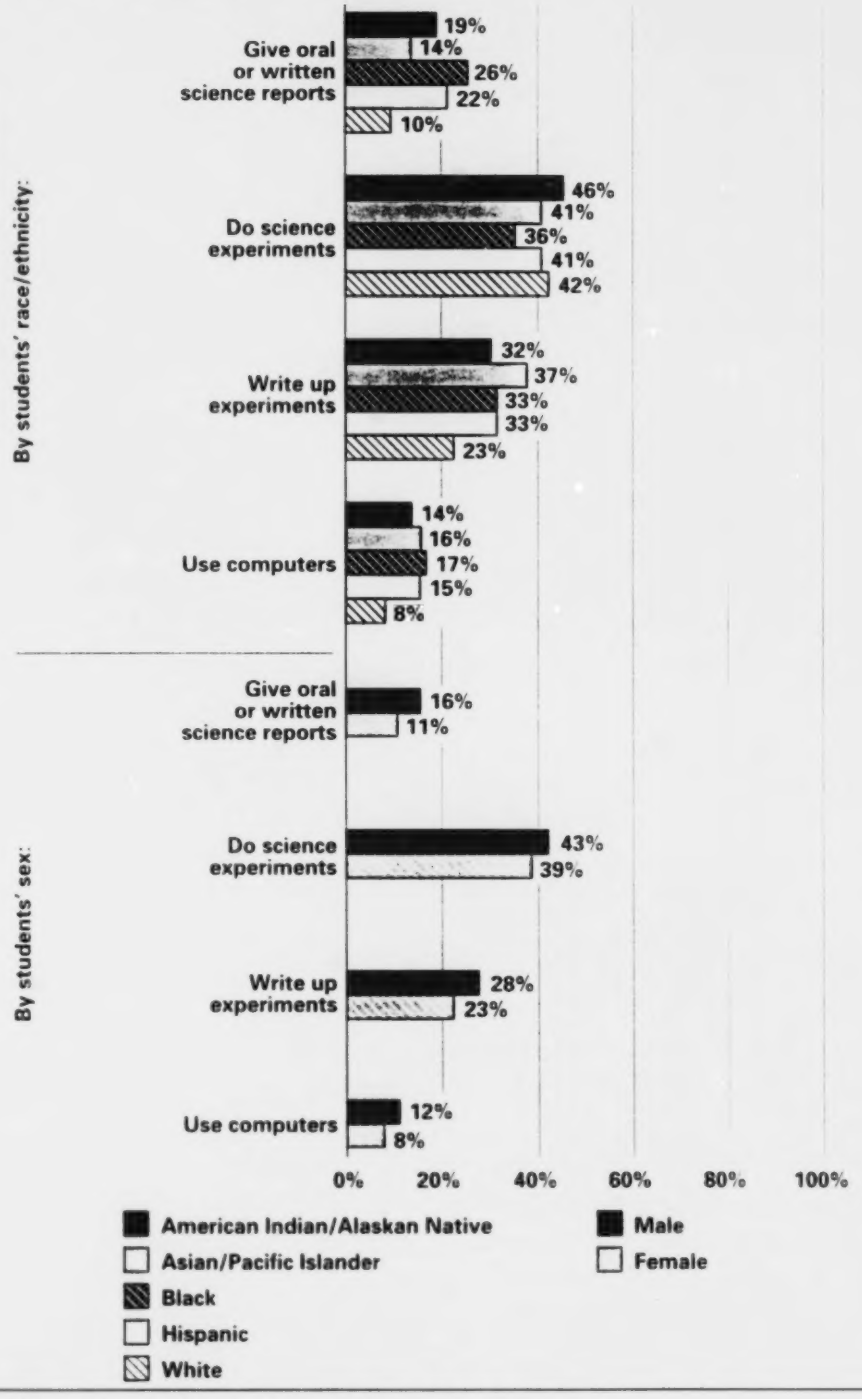
Source: National Center for Education Statistics and Westat, Inc., 1992
This exhibit repeats information presented in the 1992 Goals Report.

In 1990, the percentage of 8th graders who performed or wrote up science experiments, gave reports, and used computers in science class varied greatly among different racial/ethnic groups, according to student reports. Males were more likely than females to receive this kind of instruction.

Exhibit 55

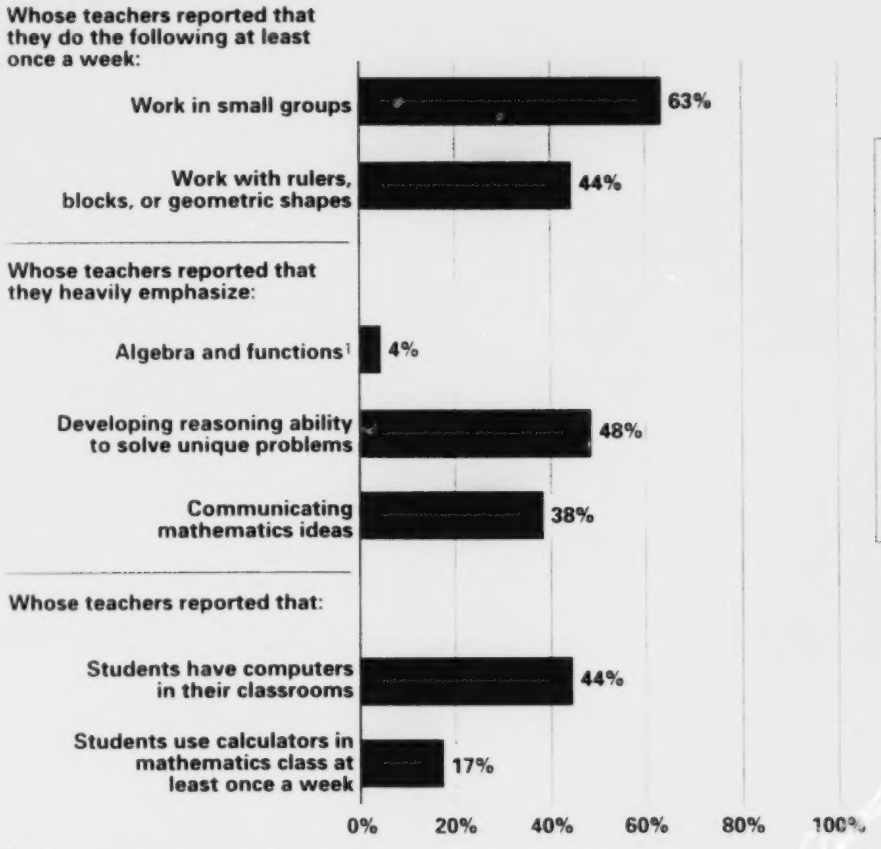
Science Instructional Practices, by Sex and by Race/Ethnicity

Percentage of 8th graders who reported doing these activities at least once a week, 1990



Source: National Center for Education Statistics and Westat, Inc., 1992
This exhibit repeats information presented in the 1992 Goals Report

Exhibit 56
Mathematics Instructional Practices – Grade 4
Percentage of 4th graders, 1992



[1] Informal introduction of concepts at Grade 4

In 1992, teachers reported that substantial numbers of 4th grade students were not receiving the kind of instruction recommended by mathematics education experts, such as working with mathematics tools and equipment, developing reasoning and problem-solving skills, and learning to communicate mathematics ideas.

Change Since 1990[1]

Percentage of 4th graders whose teachers reported that:

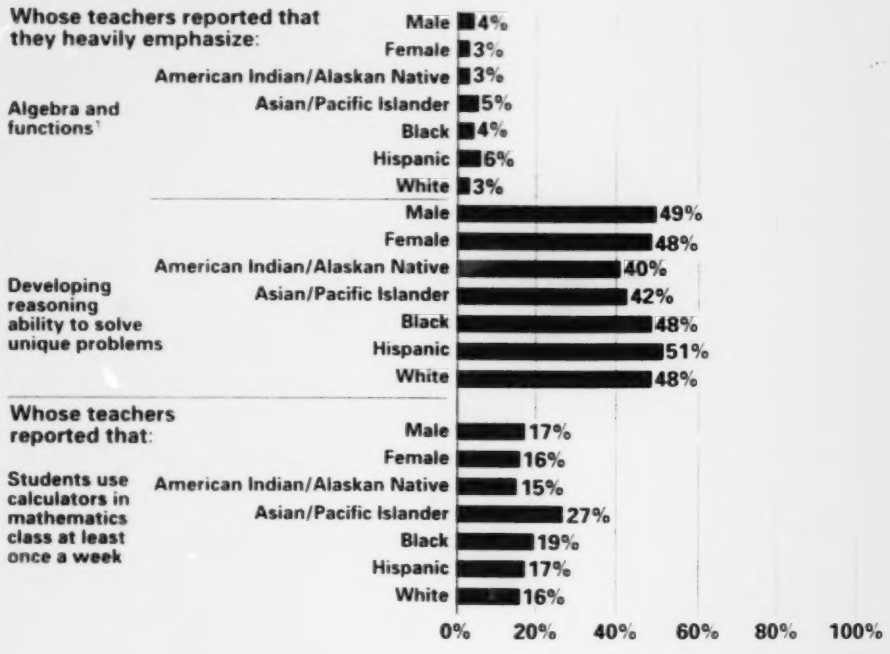
	1990	1992
Students work in small groups at least once a week	62	63
Students work with rulers, blocks, or geometric shapes at least once a week	51	44
They heavily emphasize Algebra and functions[2]	2	4
They heavily emphasize developing reasoning ability to solve unique problems	44	48
They heavily emphasize communicating mathematics ideas	40	38
Students have computers in their classroom	31	44 *
Students use calculators in mathematics class at least once a week	18	17

[1] Interpret with caution. Data are from a representative national survey. The changes shown could be attributable to sampling error. In cases noted with an asterisk, we are confident that change has occurred.
[2] Informal introduction of concepts at Grade 4.

Source: National Center for Education Statistics, 1993
This exhibit updates information presented in the 1992 Goals Report.

In 1992, the percentages of 4th graders who received the kinds of instruction recommended by mathematics education experts were fairly similar among males and females, as well as among different racial/ethnic groups, according to teacher reports.

Exhibit 57
Mathematics Instructional Practices – Grade 4, by Sex and by Race/Ethnicity
Percentage of 4th graders, 1992



[1] Informal introduction of concepts at Grade 4

Change Since 1990[1]

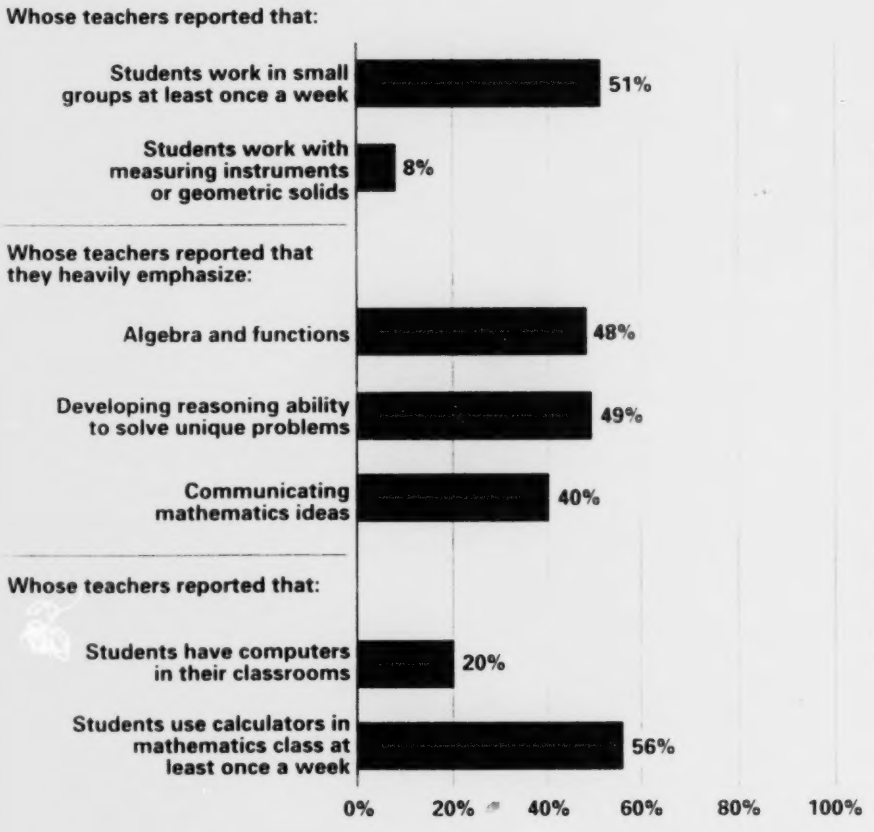
Percentage of 4th graders whose teachers reported that:[2]

	1990	1992
They heavily emphasize Algebra and functions:[3]		
Male	2	4
Female	2	3
American Indian/Alaskan Native	2	3
Asian/Pacific Islander	1	5
Black	<1	4
Hispanic	4	6
White	2	3
They heavily emphasize developing reasoning ability to solve unique problems:		
Male	43	49
Female	45	48
American Indian/Alaskan Native	43	40
Asian/Pacific Islander	55	42
Black	49	48
Hispanic	44	51
White	43	48

[1] Interpret with caution. Data are from a representative national survey. The changes shown could be attributable to sampling error. In cases noted with an asterisk, we are confident that change has occurred.
[2] Data on use of calculators in mathematics class not available for 4th graders prior to 1992.
[3] Informal introduction of concepts at Grade 4.

Source: National Center for Education Statistics, 1993.
This exhibit updates information presented in the 1992 Goals Report.

Exhibit 58
Mathematics Instructional Practices – Grade 8
Percentage of 8th graders, 1992



In 1992, teachers reported that substantial numbers of 8th graders were not receiving the kind of instruction recommended by mathematics education experts, such as developing reasoning and problem-solving abilities and communicating mathematics ideas. Only one in five 8th graders had computers in their classrooms, and only one in twelve worked with mathematics tools such as measuring instruments or geometric solids.

Change Since 1990[1]

Percentage of 8th graders whose teachers reported that:[2]

	1990	1992
Students work in small groups at least once a week	50	51
They heavily emphasize Algebra and functions	48	48
They heavily emphasize developing reasoning ability to solve unique problems	46	49
They heavily emphasize communicating mathematics ideas	38	40
Students have computers in their classroom	22	20
Students use calculators in mathematics class at least once a week	42	56 *

[1] Interpret with caution. Data are from a representative national survey. The changes shown could be attributable to sampling error. In cases noted with an asterisk, we are confident that change has occurred.
[2] Data on working with measuring instruments or geometric solids not available for 8th graders prior to 1992.

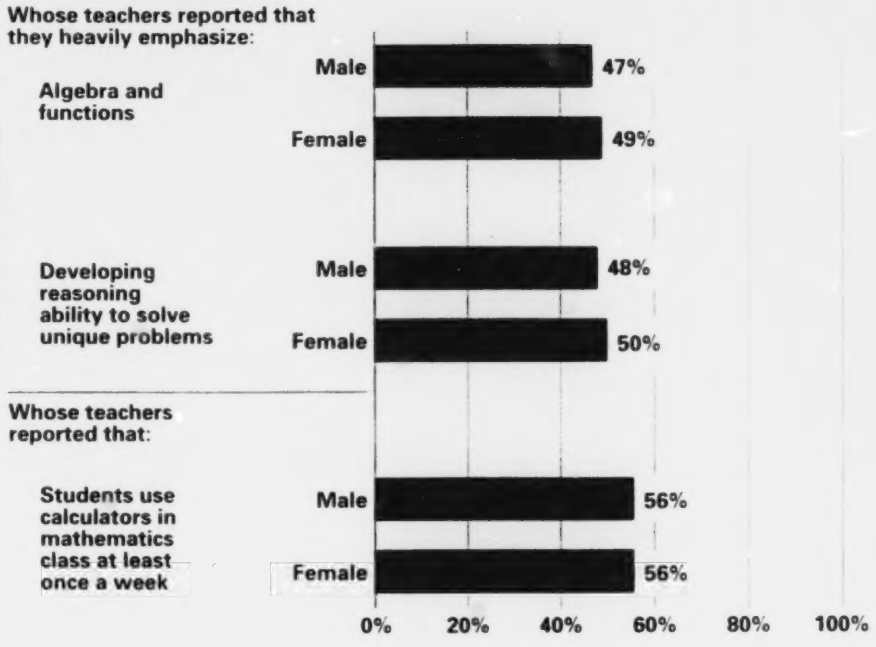
The percentage of 8th graders whose teachers reported that they used calculators in mathematics class at least once a week increased 14 percentage points between 1990 and 1992.

Source: National Center for Education Statistics, 1993
This exhibit updates information presented in the 1992 Goals Report.

In 1992, the percentages of males and females in the 8th grade who received the kinds of instruction recommended by mathematics experts were fairly equal, according to teacher reports.

Exhibit 59
Mathematics Instructional Practices – Grade 8, by Sex

Percentage of 8th graders, 1992



Change Since 1990[1]

Percentage of 8th graders whose teachers reported that:

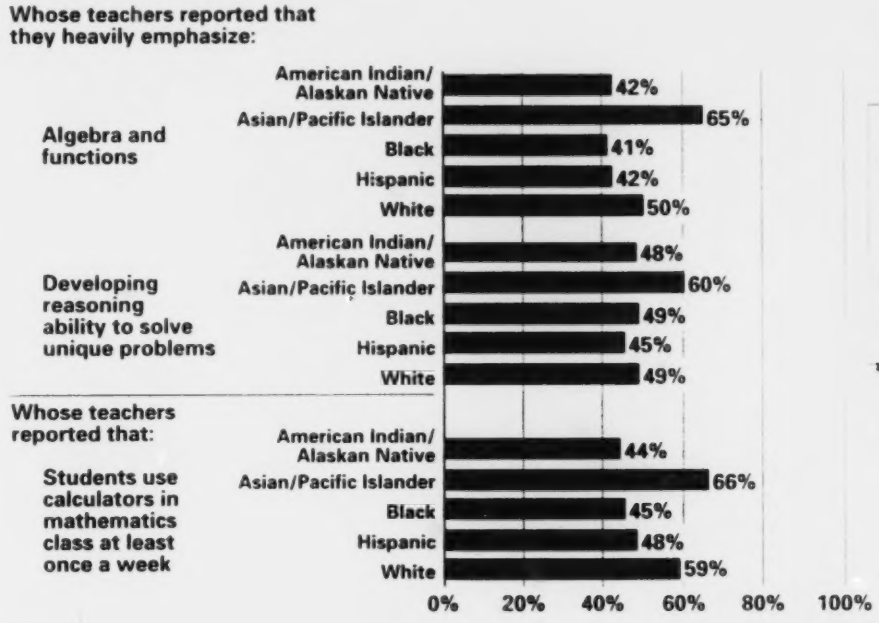
	1990	1992
They heavily emphasize Algebra and functions:		
Male	46	47
Female	50	49
They heavily emphasize developing reasoning ability to solve unique problems:		
Male	44	48
Female	48	50
Students use calculators in mathematics class at least once a week:		
Male	45	56
Female	39	56 *

[1] Interpret with caution. Data are from a representative national survey. The changes shown could be attributable to sampling error. In cases noted with an asterisk, we are confident that change has occurred.

Source: National Center for Education Statistics, 1993
This exhibit updates information presented in the 1992 Goals Report

Exhibit 60
Mathematics Instructional Practices – Grade 8, by Race/Ethnicity

Percentage of 8th graders, 1992



In 1992, Asian/Pacific Islander students were more likely to receive the kind of instruction recommended by mathematics education experts than students from other racial/ethnic groups, according to teacher reports.

Change Since 1990[1]

Percentage of 8th graders whose teachers reported that:

	1990	1992
They heavily emphasize Algebra and functions:		
American Indian/Alaskan Native	18	42
Asian/Pacific Islander	62	65
Black	41	41
Hispanic	47	42
White	50	50
They heavily emphasize developing reasoning ability to solve unique problems:		
American Indian/Alaskan Native	22	48
Asian/Pacific Islander	70	60
Black	47	49
Hispanic	49	45
White	45	49
Students use calculators in mathematics class at least once a week:		
American Indian/Alaskan Native	75	44
Asian/Pacific Islander	62	66
Black	29	45
Hispanic	43	48
White	43	59 *

[1] Interpret with caution. Data are from a representative national survey. The changes shown could be attributable to sampling error. In cases noted with an asterisk, we are confident that change has occurred.

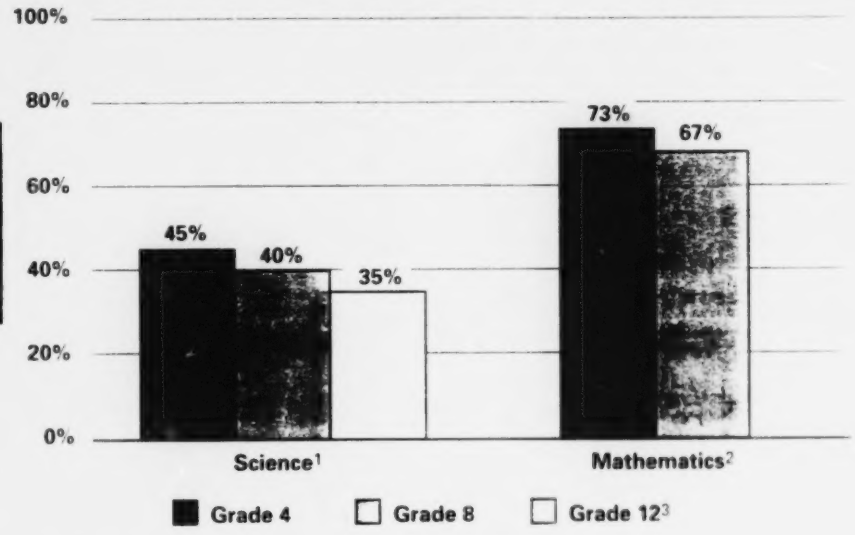
Source: National Center for Education Statistics, 1993
This exhibit updates information presented in the 1992 Goals Report.

Science and mathematics have not been identified as priorities in substantial numbers of the nation's schools, particularly secondary level science.

Exhibit 61

Priority of Science and Mathematics in Schools

Percentage of students enrolled in schools which had identified science and mathematics as priorities, 1990 and 1992



[1] Science data were collected in 1990.
[2] Mathematics data were collected in 1992.
[3] Question about priority of mathematics was not asked for Grade 12 in 1992.

Change Since 1990[1]

Percentage of students enrolled in schools which had identified mathematics as a priority:[2]

	1990	1992
Grade 4	78	73
Grade 8	64	67

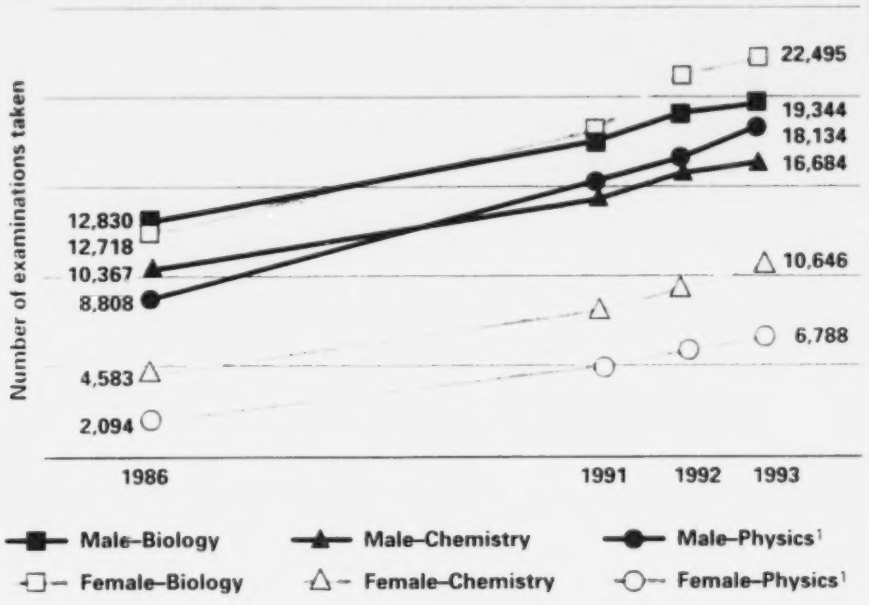
[1] Interpret with caution. Data are from a representative national survey. The changes shown could be attributable to sampling error. In cases noted with an asterisk, we are confident that change has occurred.
[2] Question about priority of mathematics was not asked for Grade 12 in 1992.

Source: National Center for Education Statistics, 1992 and 1993.
This exhibit updates information presented in the 1992 Goals Report.

Exhibit 62

Trends in Advanced Placement Science Examinations, by Sex

Number of examinations taken in science, 1986 to 1993



[1] Includes Physics B, Physics C (Mechanics), and Physics C (Electricity and Magnetism)

Biology	1986	1993	% Change
Total	25,548	41,839	64%
Male	12,830	19,344	51%
Female	12,718	22,495	77%

Chemistry	1986	1993	% Change
Total	14,950	27,330	83%
Male	10,367	16,684	61%
Female	4,583	10,646	132%

Physics	1986	1993	% Change
Total	10,902	24,922	129%
Male	8,808	18,134	106%
Female	2,094	6,788	224%

During the past seven years, the number of Advanced Placement examinations taken in science has increased 64% in Biology, 83% in Chemistry, and 129% in Physics. Although males took more than 1½ times as many Chemistry examinations and nearly 3 times as many Physics examinations as did females in 1993, females have narrowed the gap and surpassed males in the number of Biology examinations taken.

Source: The College Board, various years
This exhibit updates information presented in the 1992 Goals Report

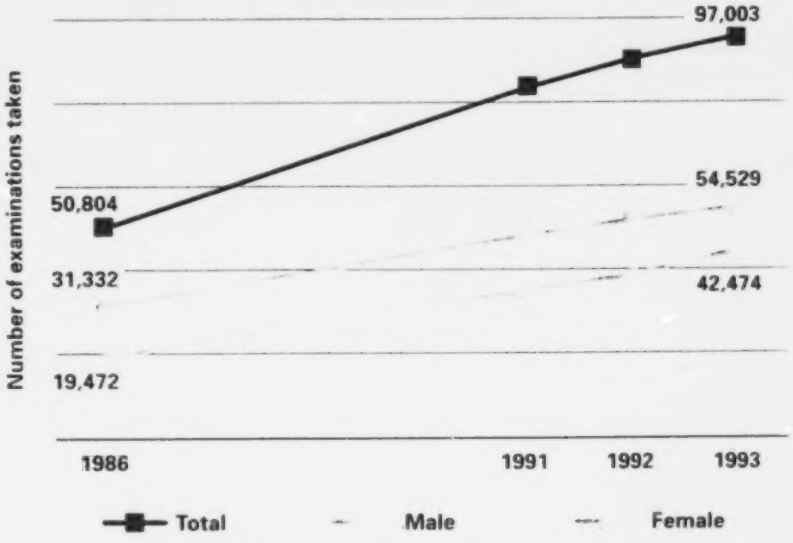
	1986	1993	% Change
Total	50,804	97,003	91%
Male	31,332	54,529	74%
Female	19,472	42,474	118%

During the past seven years, the total number of Advanced Placement Calculus examinations taken nearly doubled. Rates of increase were greater for females than for males, though males still took substantially more Calculus examinations.

Exhibit 63

Trends in Advanced Placement Mathematics Examinations, by Sex

Number of examinations taken in mathematics,[1] 1986 to 1993



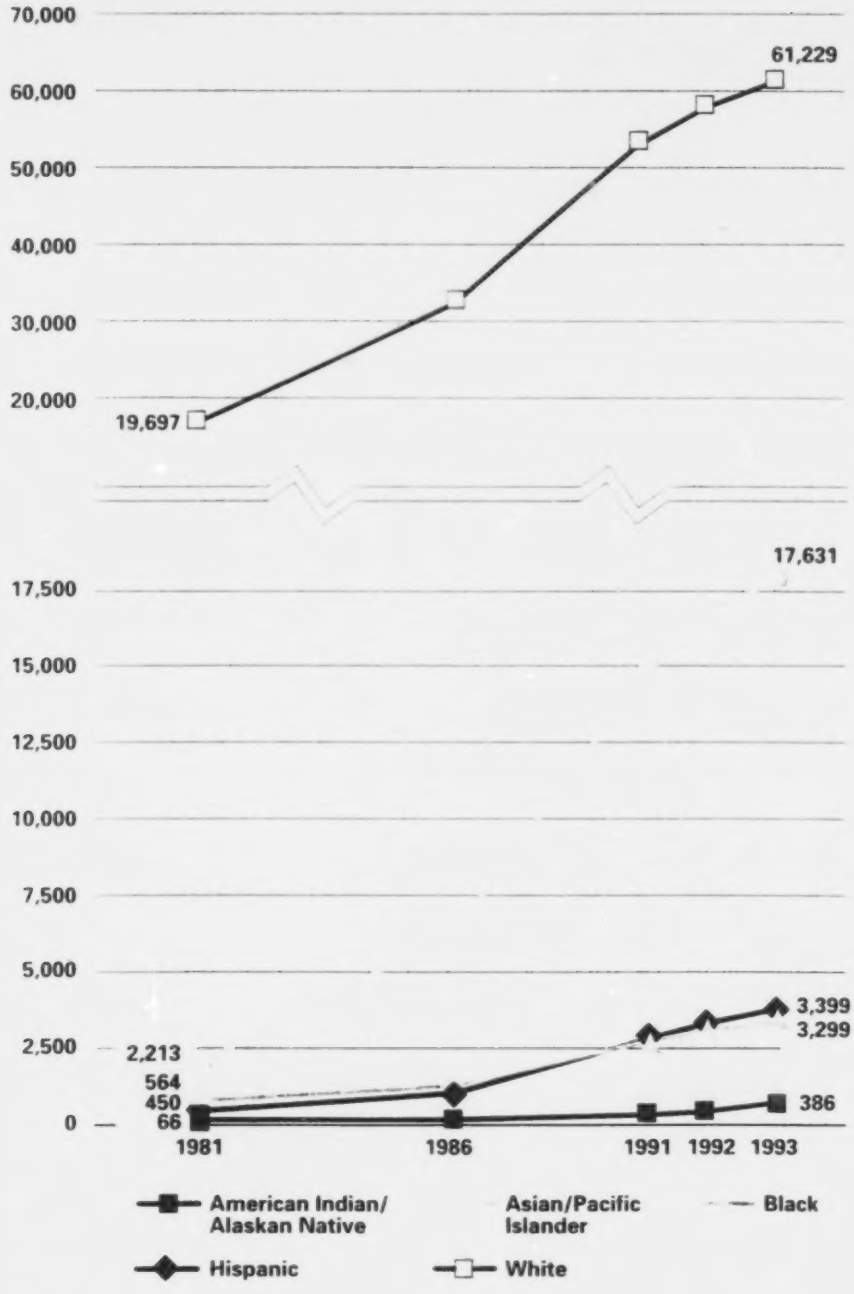
[1] Includes Calculus AB and Calculus BC

Source: The College Board, various years
This exhibit updates information presented in the 1992 Goals Report

Exhibit 64

Trends in Advanced Placement Science Examinations, by Race/Ethnicity

Number of examinations taken in science,[1] 1981 to 1993



	1981	1993	% Change
Total	30,588	94,081	208%
American Indian/ Alaskan Native	66	388	485%
Asian/Pacific Islander	2,213	17,831	687%
Black	564	3,299	485%
Hispanic	450	3,399	655%
White	19,697	61,229	211%
Other/Not Stated	7,598	8,143	7%

More than three times as many Advanced Placement science examinations were taken in 1993 as in 1981. Though White students accounted for nearly two-thirds of the exam takers in 1993, the numbers of examinations taken by minority students increased at much faster rates.

[1] Includes Biology, Chemistry, Physics B, Physics C (Mechanics), and Physics C (Electricity and Magnetism).

Source: The College Board, various years
This exhibit updates information presented in the 1992 Goals Report.

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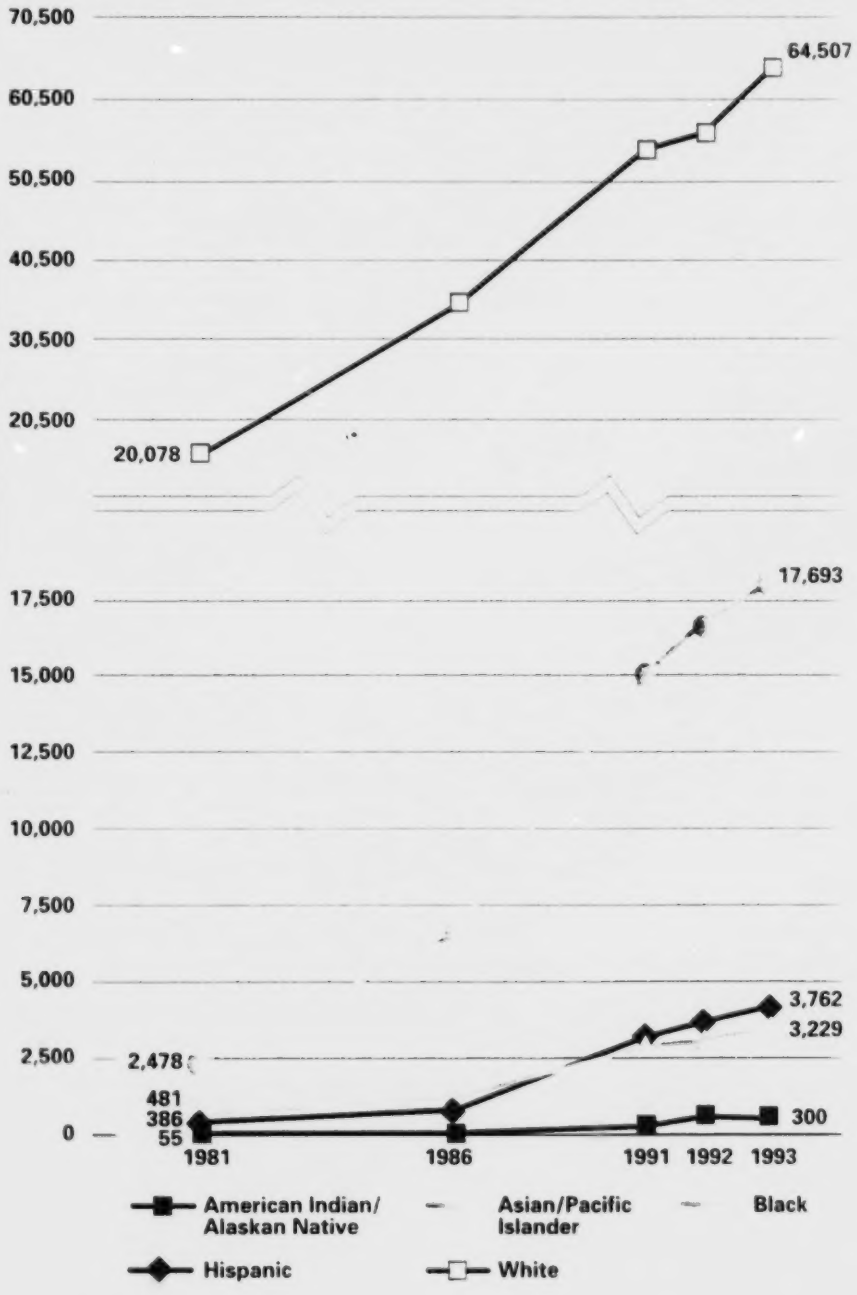
	1981	1993	% Change
Total	30,573	97,003	217%
American Indian/ Alaskan Native	55	300	445%
Asian/Pacific Islander	2,478	17,693	614%
Black	481	3,229	571%
Hispanic	386	3,762	875%
White	20,078	64,507	221%
Other/Not Stated	7,095	7,512	6%

The total number of Advanced Placement Calculus examinations taken during the past twelve years has more than tripled. Though White students took about two-thirds of the Calculus examinations in 1993, rates of increase were greatest among minority students.

Exhibit 65
Trends in Advanced Placement Mathematics Examinations, by Race/Ethnicity

Number of examinations taken in mathematics,[1] 1981 to 1993



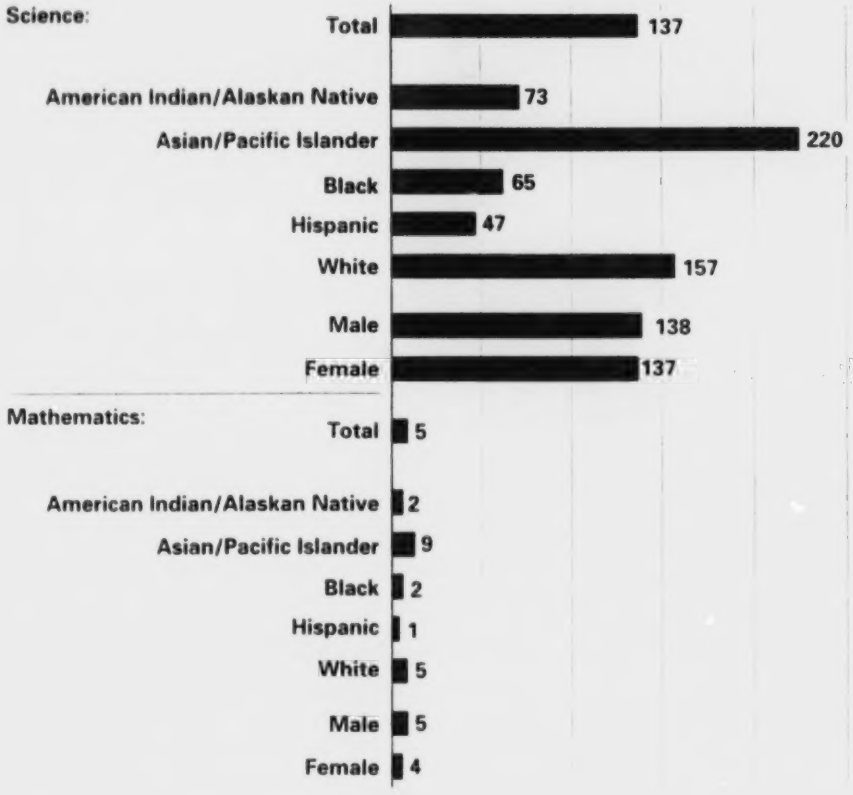
[1] Includes Calculus AB and Calculus BC

Source: The College Board, various years.
This exhibit updates information presented in the 1992 Goals Report.

Exhibit 66

Science and Mathematics Degrees Awarded to U.S. Citizens

Number of degrees[1] awarded to U.S. citizens (per 1,000 22-year-olds), 1991



[1] Includes bachelor's, master's, and doctoral degrees.

In 1991, 137 science degrees were awarded to U.S. citizens out of every 1,000 22-year-olds. In contrast, only five mathematics degrees were awarded to U.S. citizens out of every 1,000 22-year-olds. Asians/Pacific Islanders were most likely to be awarded a degree in these areas.

Change Since 1989

Number of degrees[1] awarded to U.S. citizens in science and mathematics (per 1,000 22-year-olds):

	Science Degrees		Mathematics Degrees	
	1989	1991	1989	1991
Total	131	137	5	5
American Indian/Alaskan Native	68	73	2	2
Asian/Pacific Islander	240	220	11	9
Black	55	65	2	2
Hispanic	44	47	1	1
White	151	157	6	5
Male	138	138	5	5
Female	125	137	4	4

[1] Includes bachelor's, master's, and doctoral degrees.

Between 1989 and 1991, the number of degrees awarded to U.S. citizens in science (per 1,000 22-year-olds) increased from 131 to 137. Increases were greatest among females and Blacks; decreases were greatest among Asians/Pacific Islanders. The number of degrees awarded in mathematics remained essentially unchanged.

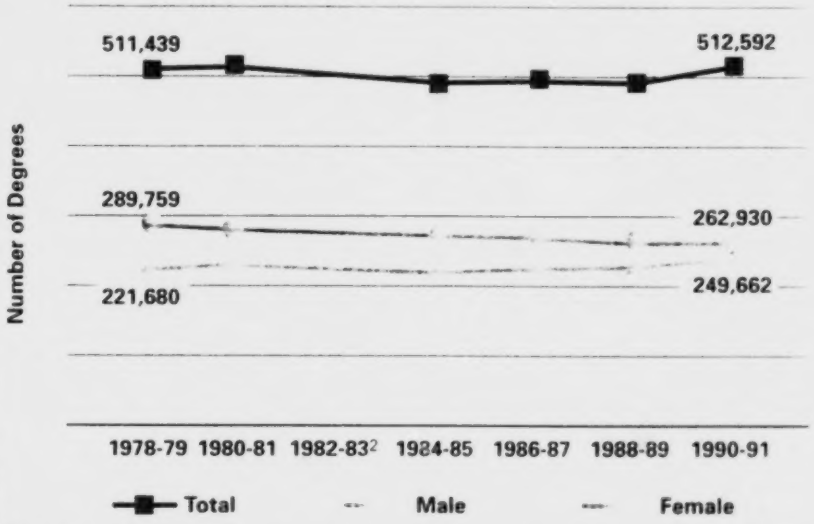
Source: National Science Foundation, various years, National Research Council, 1992, and Bureau of the Census, 1993. This exhibit modifies and updates information presented in the 1992 Goals Report.

American students earned over half a million science degrees in 1991. The combined number of undergraduate and graduate degrees earned by females increased 13% in science (versus a 9% decrease for males) between 1979 and 1991.

Exhibit 67

Trends in Science Degrees Earned, by Sex

Number[1] earned by U.S. citizens, 1978-79 to 1990-91



[1] Includes bachelor's, master's, and doctoral degrees in engineering, physical science, computer science, biological science, agricultural science, social science, psychology, and health fields.
[2] No data available.

Undergraduate	1978-79	1990-91	% Change
Total	413,979	408,982	–1%
Male	230,704	210,843	–9%
Female	183,275	198,139	8%

Graduate	1978-79	1990-91	% Change
Total	97,460	103,610	6%
Male	59,055	52,087	–12%
Female	38,405	51,523	34%

Undergraduate and Graduate Combined	1978-79	1990-91	% Change
Total	511,439	512,592	<1%
Male	289,759	262,930	–9%
Female	221,680	249,662	13%

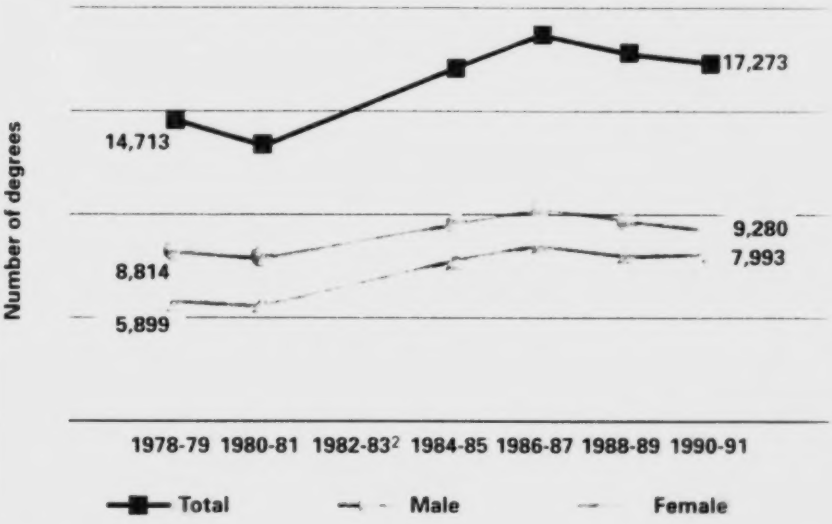
Source: National Science Foundation, various years, and National Research Council, 1992.
This exhibit updates information presented in the 1992 Goals Report.

American students earned over 17,000 mathematics degrees in 1991. The combined number of undergraduate and graduate degrees earned increased 5% for males and 35% for females between 1979 and 1991.

Exhibit 68

Trends in Mathematics Degrees Earned, by Sex

Number[1] earned by U.S. citizens, 1978-79 to 1990-91



[1] Includes bachelor's, master's, and doctoral degrees.
[2] No data available.

Undergraduate	1978-79	1990-91	% Change
Total	11,536	14,206	23%
Male	6,698	7,430	11%
Female	4,838	6,776	40%

Graduate	1978-79	1990-91	% Change
Total	3,177	3,067	–3%
Male	2,116	1,850	–13%
Female	1,061	1,217	15%

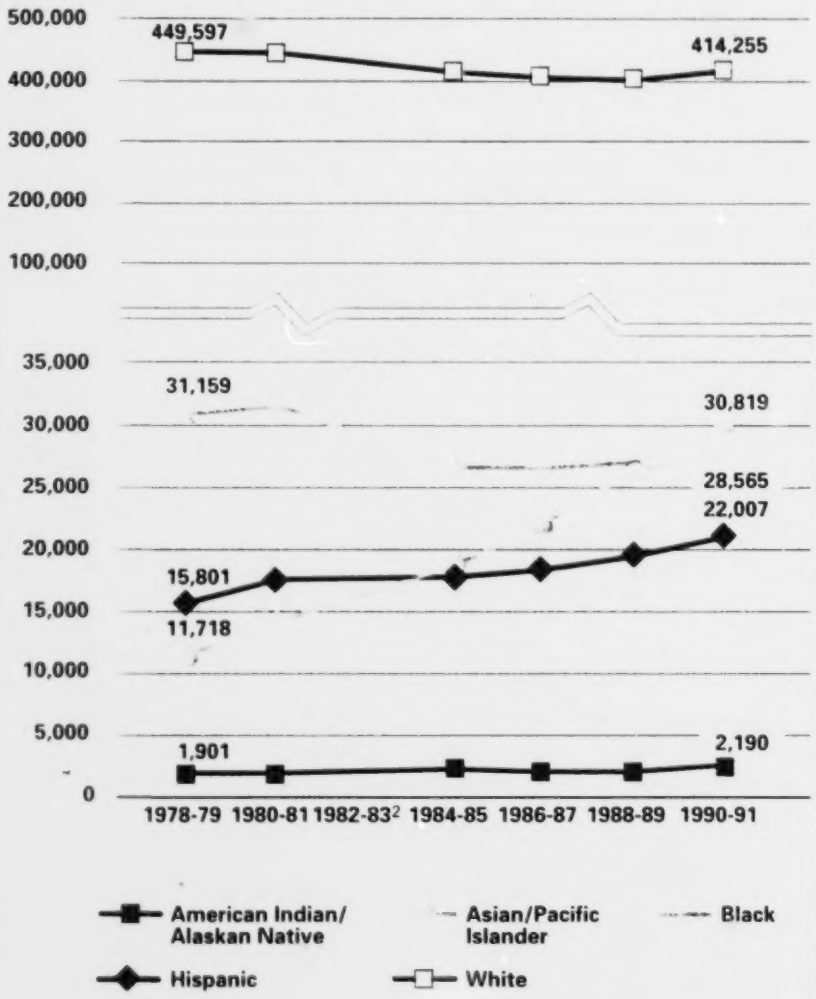
Undergraduate and Graduate Combined	1978-79	1990-91	% Change
Total	14,713	17,273	17%
Male	8,814	9,280	5%
Female	5,899	7,993	35%

Source: National Science Foundation, various years, and National Research Council, 1992.
This exhibit updates information presented in the 1992 Goals Report.

Exhibit 69

Trends in Science Degrees Earned, by Race/Ethnicity

Number[1] earned by U.S. citizens, 1978-79 to 1990-91



[1] Includes bachelor's, master's, and doctoral degrees in engineering, physical science, computer science, biological science, agricultural science, social science, psychology, and health fields.
[2] No data available.

Between 1979 and 1991, the combined numbers of undergraduate and graduate degrees earned in science increased for American Indian/Alaskan Native, Asian/Pacific Islander, and Hispanic students, but decreased slightly for Black and White students.

Undergraduate

	1978-79	1990-91	% Change
Total	413,979	408,982	–1%
American Indian/ Alaskan Native	1,576	1,767	12%
Asian/Pacific Islander	8,354	22,388	168%
Black	26,052	25,791	–1%
Hispanic	13,574	18,511	36%
White	364,341	330,085	–9%
Other/Not Stated	82	10,440	12,632%

Graduate

	1978-79	1990-91	% Change
Total	97,460	103,610	6%
American Indian/ Alaskan Native	325	423	30%
Asian/Pacific Islander	3,364	6,177	84%
Black	5,107	5,028	–2%
Hispanic	2,227	3,496	57%
White	85,256	84,170	–1%
Other/Not Stated	1,181	4,316	265%

Undergraduate and Graduate Combined

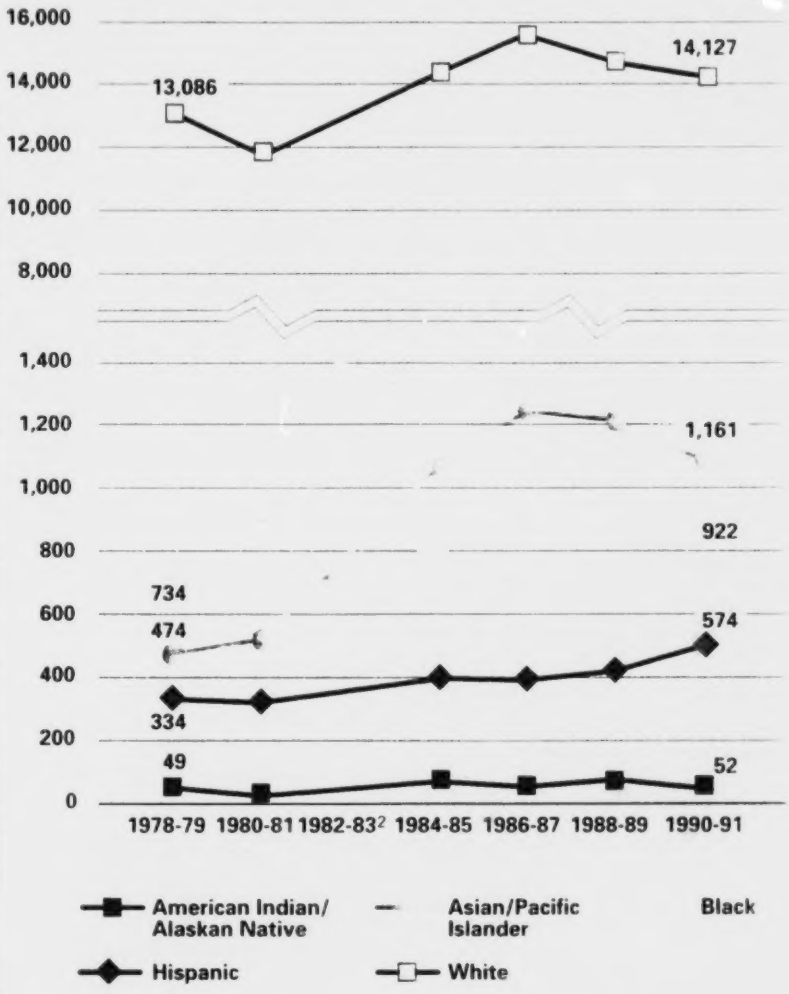
	1978-79	1990-91	% Change
Total	511,439	512,592	<1%
American Indian/ Alaskan Native	1,901	2,190	15%
Asian/Pacific Islander	11,718	28,565	144%
Black	31,159	30,819	–1%
Hispanic	15,801	22,007	39%
White	449,597	414,255	–8%
Other/Not Stated	1,263	14,756	1,068%

Source: National Science Foundation, various years, and National Research Council, 1992
This exhibit updates information presented in the 1992 Goals Report.

Between 1979 and 1991, the combined numbers of undergraduate and graduate degrees earned in mathematics increased for students in every racial/ethnic group.

Exhibit 70
Trends in Mathematics Degrees Earned, by Race/Ethnicity

Number[1] earned by U.S. citizens, 1978-79 to 1990-91



Undergraduate	1978-79	1990-91	% Change
Total	11,536	14,206	23%
American Indian/ Alaskan Native	41	43	5%
Asian/Pacific Islander	324	915	182%
Black	652	811	24%
Hispanic	288	480	67%
White	10,229	11,649	14%
Other/Not Stated	2	308	15,300%

Graduate	1978-79	1990-91	% Change
Total	3,177	3,067	–3%
American Indian/ Alaskan Native	8	9	13%
Asian/Pacific Islander	150	246	64%
Black	82	111	35%
Hispanic	46	94	104%
White	2,857	2,478	–13%
Other/Not Stated	34	129	279%

Undergraduate and Graduate Combined	1978-79	1990-91	% Change
Total	14,713	17,273	17%
American Indian/ Alaskan Native	49	52	6%
Asian/Pacific Islander	474	1,161	145%
Black	734	922	26%
Hispanic	334	574	72%
White	13,086	14,127	8%
Other/Not Stated	36	437	1,114%

[1] Includes bachelor's, master's, and doctoral degrees.
[2] No data available.

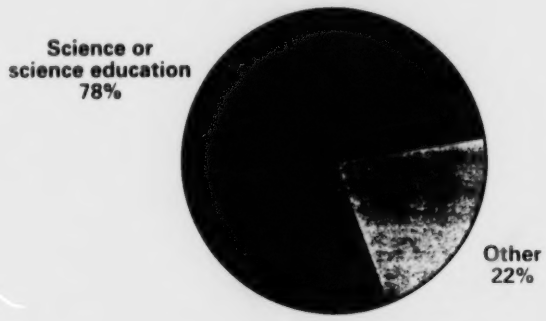
Source: National Science Foundation, various years, and National Research Council, 1992.
This exhibit updates information presented in the 1992 Goals Report.

Exhibit 71

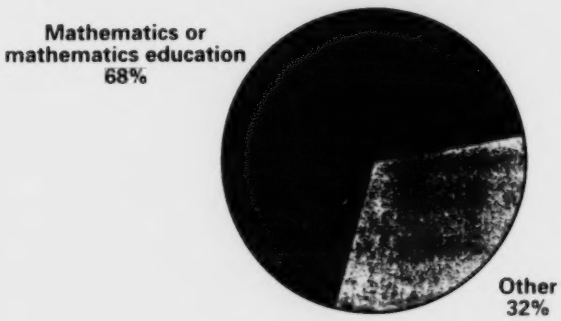
Science and Mathematics Teacher Preparation

Percentage of all high school science and mathematics teachers[1] who have a degree[2] in the field in which they teach, 1991

All high school science teachers



All high school mathematics teachers



[1] Primary teaching assignment is science or mathematics.
[2] Academic or education majors. Does not include minors or second majors in science, science education, mathematics, or mathematics education.

In 1991, nearly eight out of ten high school science teachers held a degree in science or science education. Nearly seven out of ten high school mathematics teachers held a degree in mathematics or mathematics education.

Change Since 1988[1]

Percentage of all high school science and mathematics teachers[2] who have a degree[3] in the field in which they teach:

	1988	1991
Science teachers[4]	77	78
Mathematics teachers[5]	70	68

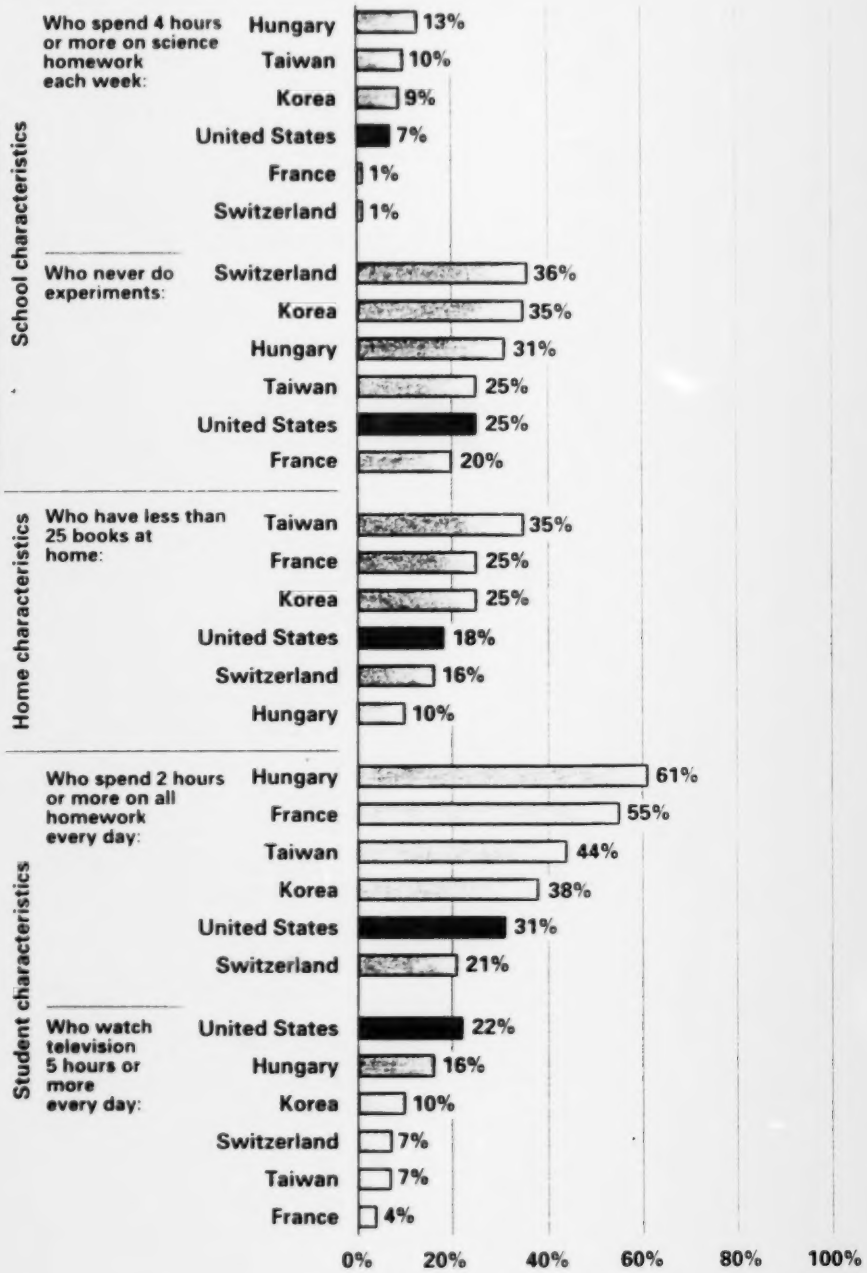
[1] Interpret with caution. Data are from a representative national survey. The changes shown could be attributable to sampling error. In cases noted with an asterisk, we are confident that change has occurred.
[2] Primary teaching assignment is science or mathematics.
[3] Academic or education majors. Does not include minors or second majors in science, science education, mathematics, or mathematics education.
[4] Includes science and science education degrees.
[5] Includes mathematics and mathematics education degrees.

Source: National Center for Education Statistics, 1992
This exhibit repeats information presented in the 1992 Goals Report.

American 13-year-olds are generally more likely to do science experiments and to have more books in their homes than their counterparts in other countries. However, American students tend to spend less time doing homework and lead the nations in the amount of television watched.

Exhibit 72
International Science Comparisons: Differences in School, Home, and Student Characteristics

Percentage of 13-year-old students in six countries,[1] 1991



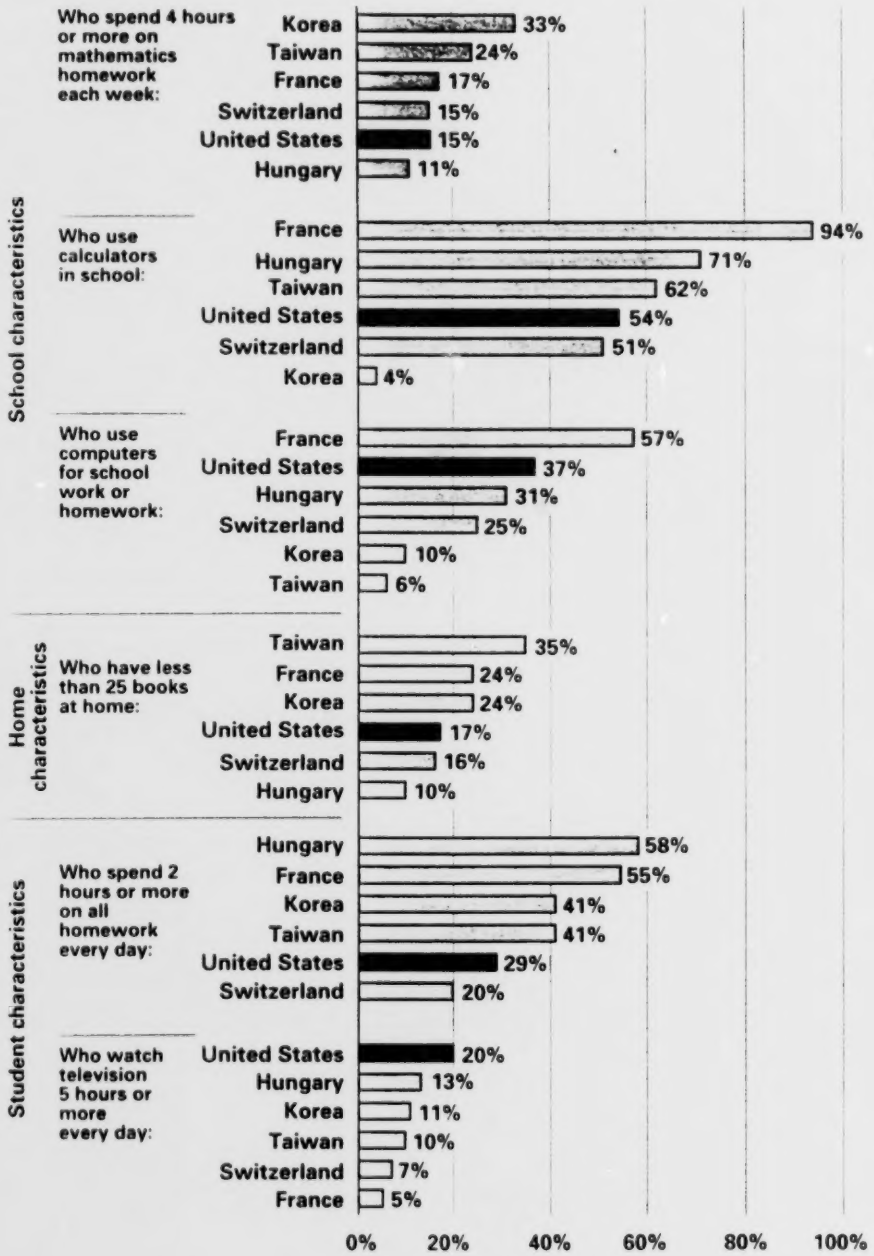
[1] Students from Brazil, Canada, China, England, Ireland, Israel, Italy, Jordan, Portugal, Scotland, Slovenia, the former Soviet Union, and Spain also participated in this assessment.

Source: Educational Testing Service, 1992
This exhibit repeats information presented in the 1992 Goals Report

Exhibit 73

International Mathematics Comparisons: Differences in School, Home, and Student Characteristics

Percentage of 13-year-old students in six countries,[1] 1991



American 13-year-olds are generally more likely to use computers and to have more books in their homes than their counterparts in other countries. However, American students tend to spend less time doing homework and using calculators in school, and lead the nations in the amount of television watched.

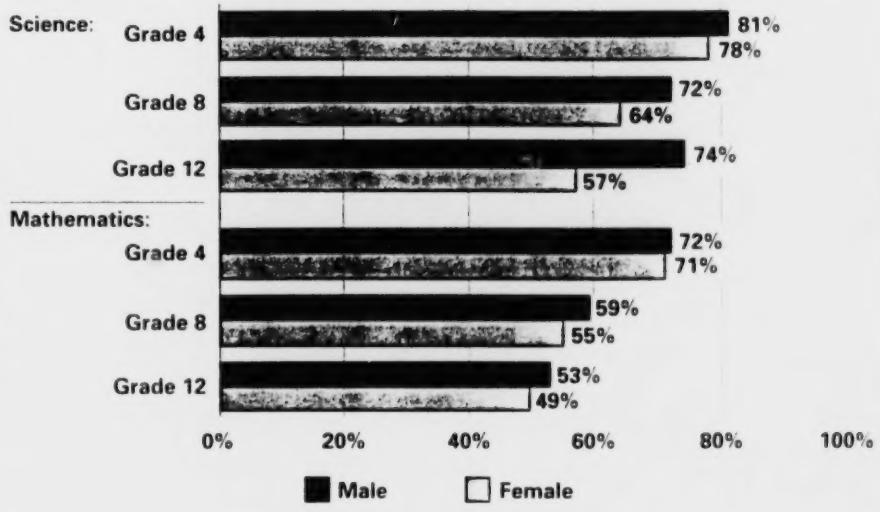
[1] Students from Brazil, Canada, China, England, Ireland, Israel, Italy, Jordan, Mozambique, Portugal, Scotland, Slovenia, the former Soviet Union, and Spain also participated in this assessment.

Source: Educational Testing Service, 1992
This exhibit repeats information presented in the 1992 Goals Report.

In 1990 and 1992, students in higher grades were less likely to have positive attitudes toward science and mathematics than students in lower grades. The gap between males and females increased substantially from Grade 4 to Grade 12, particularly in science.

Exhibit 74
Student Attitudes Toward Science and Mathematics

Percentage of students who reported positive attitudes[1] toward science[2] and mathematics,[3] 1990 and 1992



[1] Response of "yes" to the question "Do you like science?" and response of "agree" or "strongly agree" to the statement "I like mathematics."
[2] Science data were collected in 1990.
[3] Mathematics data were collected in 1992.

Change Since 1990[1]

Percentage of students who reported positive attitudes[2] toward mathematics:

	1990	1992
Grade 4:		
Male	69%	72%
Female	71%	71%
Grade 8:		
Male	60%	59%
Female	54%	55%
Grade 12:		
Male	58%	53% *
Female	51%	49%

[1] Interpret with caution. Data are from a representative national survey. The changes shown could be attributable to sampling error. In cases noted with an asterisk, we are confident that change has occurred.
[2] Response of "agree" or "strongly agree" to the statement "I like mathematics."

Source: National Center for Education Statistics, 1992, and 1993, and Educational Testing Service, 1993.
This exhibit updates information presented in the 1992 Goals Report.

GOAL 5

Adult Literacy and Lifelong Learning

1993

GOAL 5

Adult Literacy and Lifelong Learning

Introduction

Lifelong learning has never been more important. With the speed and scope of change taking place in technology and around the world, the skills needed to be an effective worker and citizen are rapidly increasing in complexity. To survive and prosper, Americans must choose to value and invest in continued learning. Any other choice has serious consequences for individuals and for society.

Most Americans today can write and compute on a simple level. Most also believe that they read and write well. Last year the Goals Report pointed out that literacy standards in today's environment require more than rudimentary skills. This year's Goals Report presents new data showing that Americans actually do not read and write well, despite their self-perceptions. Even college graduates, on average, have only middle-level literacy skills. More alarming is the finding that the average literacy skills of young adults are lower than they were seven years ago.

These data do not bode well for American businesses. Overseas competitors are showing us that greater productivity depends upon higher worker skills and the creation of a high-performance work environment. Still, the American public is not sure how higher literacy relates to their own standard of living. They are worried about the economy and our competitiveness, but often they fail to see the link between further adult learning and either their own security or that of the country. New information shows how direct those links are. In 1992, adults scoring at the highest levels of literacy were much more likely to have been employed than those scoring at the lowest levels; their weekly wages were more than double those of adults with the lowest literacy levels.

Other new data in the 1993 Goals Report reflect some positive response on the part of our post-secondary education system toward the need for continued learning. As young people's interest in careers demanding high skills has increased over the last two decades, so have college enrollment rates. Still, only about one-third of young adult high school graduates possessed a two- or four-year post-secondary degree in 1992.

Furthermore, just as we are not sure of what K-12 students are learning because of inadequate standards and measurements, we also are not sure of the standards underpinning higher education. We need to know more than just how many students complete college. We need a clearer understanding of the knowledge and skills these graduates attain and how they relate to the demands of a world marketplace and the rights and responsibilities of citizenship. This year, the Goals Panel endorsed the development of a national sample-based collegiate assessment system to provide such an understanding.

To believe in the value of lifelong learning is to believe in being a literate adult, possessing internationally competitive knowledge and skills in the workplace, and being an informed and engaged citizen. That is a choice with excellent consequences for all.

GOAL 5

Adult Literacy and Lifelong Learning

By the year 2000, every adult American will be literate and will possess the knowledge and skills necessary to compete in a global economy and exercise the rights and responsibilities of citizenship.

Objectives

- Every major American business will be involved in strengthening the connection between education and work.
- All workers will have the opportunity to acquire the knowledge and skills, from basic to highly technical, needed to adapt to emerging new technologies, work methods, and markets through public and private educational, vocational, technical, workplace, or other programs.
- The number of quality programs, including those at libraries, that are designed to serve more effectively the needs of the growing number of part-time and mid-career students will increase substantially.
- The proportion of those qualified students (especially minorities) who enter college, who complete at least two years, and who complete their degree programs will increase substantially.
- The proportion of college graduates who demonstrate an advanced ability to think critically, communicate effectively, and solve problems will increase substantially.

GOAL 5

Adult Literacy and Lifelong Learning

What we have learned since the 1992 Report

The 1993 Goals Report presents new information from the National Adult Literacy Survey on the percentage of adults who are able to perform various literacy tasks and how this performance relates to outcomes such as employment status, average number of weeks worked, weekly wages, and voting behavior. New information is also presented on a twenty-year trend of career expectations of high school seniors. This section also updates information on college enrollment and completion and voter participation.

Direct Measures of the Goal

Adult Literacy

Nearly half of all American adults read and write at the two lowest levels of prose, document, and quantitative literacy in English. While these adults do have some limited literacy skills, they are not likely to be able to perform the range of complex literacy tasks that the National Education Goals Panel considers important for competing successfully in a global economy and exercising fully the rights and responsibilities of citizenship. (See Exhibit 75.)

Despite the fact that nearly half of all American adults read and write at the two lowest levels of proficiency, nearly all American adults believe that they read and write English well. Even among those at the very lowest proficiency level, roughly three-fourths reported that they read English well, and slightly more than two-thirds reported that they write English well. (See Exhibit 76.)

On average, adults with a high school credential or less scored in the two lowest English literacy levels. However, even adults with college degrees scored, on average, no higher than the third of five literacy levels. Adults whose parents had completed high school or beyond scored 1 to 1½ levels higher on English literacy tasks in 1992, on average, than adults whose parents had not completed high school. (See Exhibits 77 and 78.)

Average English literacy scores were highest among White adults and lowest among Hispanics. However, among Hispanics, literacy scores were markedly higher among adults born in the U.S. than among immigrants. (See Exhibit 79.)

In 1992, average literacy scores of 21- to 25-year-olds and 28- to 32-year-olds were slightly lower than the scores of young adults seven years earlier. (See Exhibit 80.)

Workforce Skills

On average, English literacy scores attained by adults in white-collar occupations were one level higher than scores attained by adults in blue-collar occupations. Scores attained by employed adults were, on average, one level higher than scores attained by unemployed adults or those out of the labor force. (See Exhibits 81 and 82.)

Direct Measures of the Objectives

Post-Secondary Enrollment and Completion

Enrollments in post-secondary institutions immediately following high school increased markedly between 1974 and 1991. In 1991, about six out of ten high

GOAL 5

Adult Literacy and Lifelong Learning

school graduates enrolled in either two- or four-year colleges. (See Exhibits 90 and 91.)

In 1992, three out of ten high school graduates aged 25-29 possessed an associate's or bachelor's degree. An additional 5% had a postgraduate degree. (See Exhibit 92.)

Direct Measures of the Goal

Citizenship

The percentages of U.S. citizens who registered to vote and who actually voted in national elections in 1992 were almost identical to the percentages 20 years earlier. In 1992, 73% of all U.S. citizens were registered to vote, while about two-thirds actually voted. Between 1988 and 1992, the percentages of all U.S. citizens who registered to vote and who voted increased by three and five points, respectively. (See Exhibits 93 and 94.)

Additional Important Information

Literacy Skills and Voting Behavior

In 1992, nearly 90% of adults eligible to vote who scored at the highest level of English literacy (Level 5) had voted in a national or state election during the previous five years, compared to about 55% of the adults at the lowest level of literacy (Level 1). (See Exhibit 95.)

Literacy Skills and Economic Productivity

In 1992, adults who scored at higher literacy levels were far more likely to have been employed than those who scored at the lower literacy levels. Moreover, adults at the highest level of literacy had worked, on average, more than twice as many weeks during the previous year and earned more than double the median weekly wages of adults at the lowest level of literacy. (See Exhibits 96-98.)

Career Expectations

Over the past twenty years, the percentage of high school seniors who reported that they expect to follow career paths which demand high skills and higher education has increased dramatically, especially among females. (See Exhibit 99.)

What we still need to know

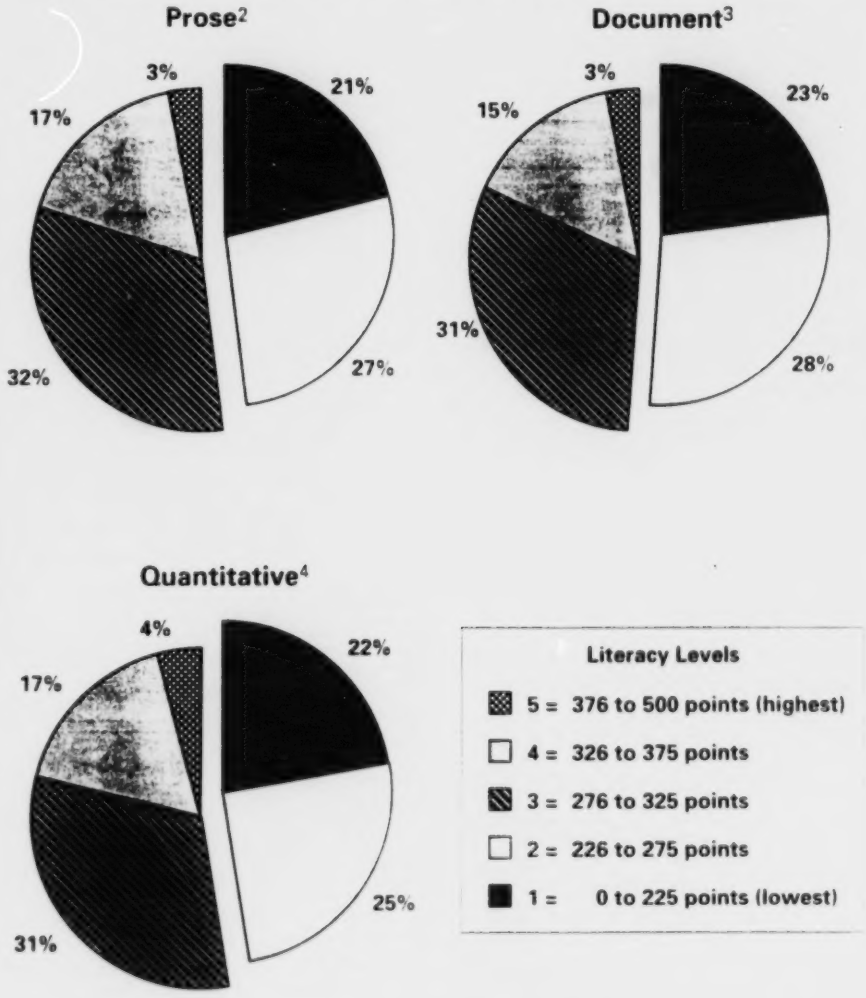
We still need to develop consensus standards specifying our expectations for what adults should know and be able to do. We also need ways to measure the higher order skills of college graduates. In the year ahead the Goals Panel will work closely with the National Institute for Literacy to begin a process for defining adult literacy standards. We also will continue to monitor the National Center for Education Statistics' efforts to develop new sample-based assessments of college graduates' higher order skills.

Exhibit 75

Adult Literacy

Percentage of adults aged 16 and older who scored at five literacy levels[1] on prose, document, and quantitative literacy scales, 1992

Nearly half of all American adults read and write at the two lowest levels of prose, document, and quantitative literacy in English. While these adults do have some limited literacy skills, they are not likely to be able to perform the range of complex literacy tasks that the National Educational Goals Panel considers important for competing successfully in a global economy and exercising fully the rights and responsibilities of citizenship.



[1] Test results are reported on scales of 0 to 500 points. Scores are grouped into five levels, with Level 5 being most proficient and Level 1 being least proficient. Complete descriptions of each level can be found in Appendix A.

[2] Prose literacy tasks require readers to understand and use information contained in texts such as newspapers and pamphlets.

[3] Document literacy tasks require readers to locate and use information contained in materials such as tables, charts, and maps.

[4] Quantitative literacy tasks require readers to perform arithmetic computations using numbers found in printed materials.

Source: National Center for Education Statistics, 1993

Examples of Literacy Tasks at Different Levels of Difficulty on the National Adult Literacy Survey

LEVEL 1 (least difficult)

- Read a newspaper article about a marathon swimmer and underline the sentence in the article that tells what she ate during the swim.
- Complete a portion of a job application.
- Add two numbers on a bank deposit slip.

LEVEL 2

- Read a manufacturer's instructions for returning appliances for service, then select the customer's note that best followed the company's instructions.
- Use a table in a catalogue to determine shipping charges for office supplies. Then complete an order form by filling in the amounts and calculating the total charges.
- Review a pay stub and write down the year-to-date gross pay.

LEVEL 3

- Write a letter about an error that appears on a credit card bill.
- Interpret a graph which estimates power consumption for four different years by energy source.
- Calculate the difference in population growth between two groups from information presented in a graph.

LEVEL 4

- Read a newspaper article about technologies used to produce more fuel-efficient cars and then contrast the two opposing views presented.
- Use a bus schedule to determine how long a passenger who misses a bus would have to wait for another bus if traveling between two given locations on a weekend.
- Estimate the cost per ounce of peanut butter, using information from two different types of price labels.

LEVEL 5 (most difficult)

- Read a page of information about jury selection and service, then identify and summarize two kinds of challenges attorneys use when selecting potential jurors.
- Use information in a table to analyze the results of a parent-teacher survey and write a paragraph summarizing the results.
- Read an advertisement for home equity loans and explain how to calculate total interest charges for the loan.

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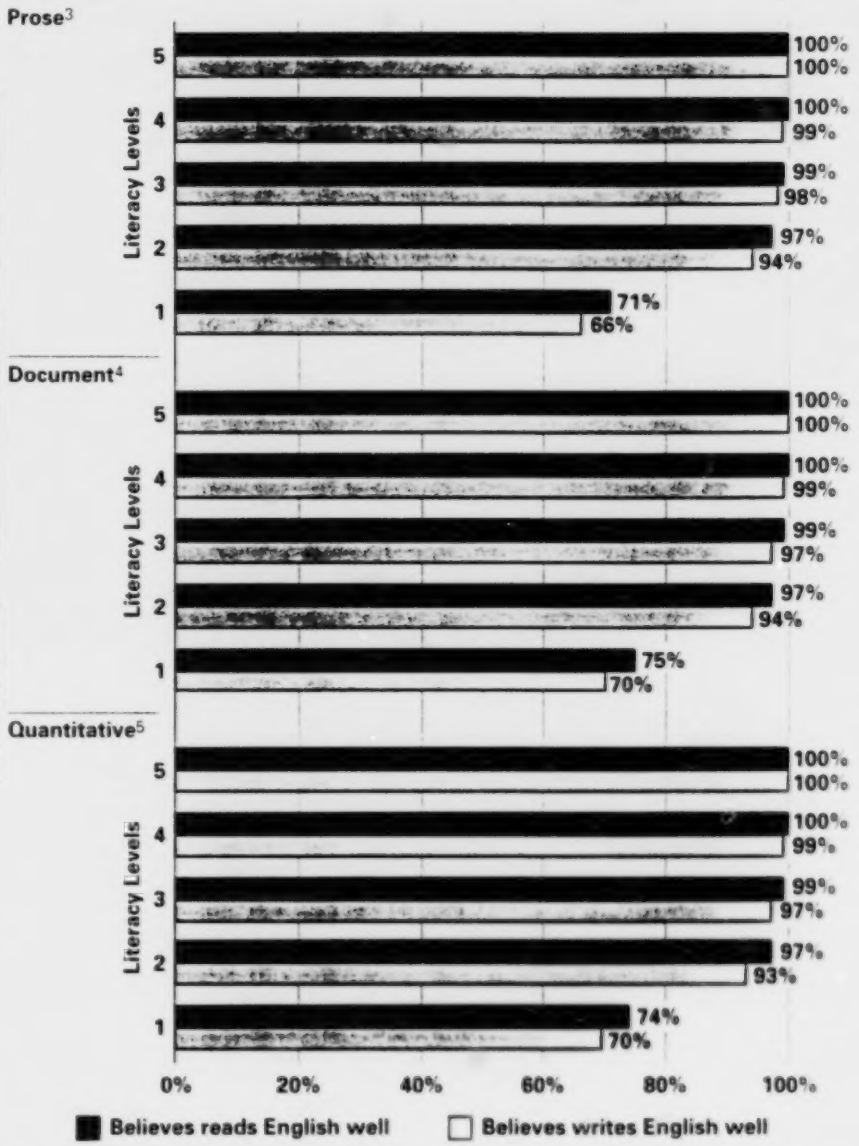
Exhibit 76

Adults' Perceptions of Own Literacy Abilities, by Literacy Level

Percentages of adults aged 16 and older who reported that they read and write English well,[1] by literacy level,[2] 1992

Despite the fact that nearly half of all American adults read and write at the two lowest levels of proficiency, nearly all American adults believe that they read and write English well. Even among those at the very lowest proficiency level, roughly three-fourths reported that they read English well, and slightly more than two-thirds reported that they write English well.



Level 5 =	376 to	500 points
Level 4 =	326 to	375 points
Level 3 =	276 to	325 points
Level 2 =	226 to	275 points
Level 1 =	0 to	225 points

[1] Responses of "well" and "very well" combined.

[2] Test results are reported on scales of 0 to 500 points. Scores are grouped into five levels, with Level 5 being most proficient and Level 1 being least proficient. Complete descriptions of each level can be found in Appendix A.

[3] Prose literacy tasks require readers to understand and use information contained in texts such as newspapers and pamphlets.

[4] Document literacy tasks require readers to locate and use information contained in materials such as tables, charts, and maps.

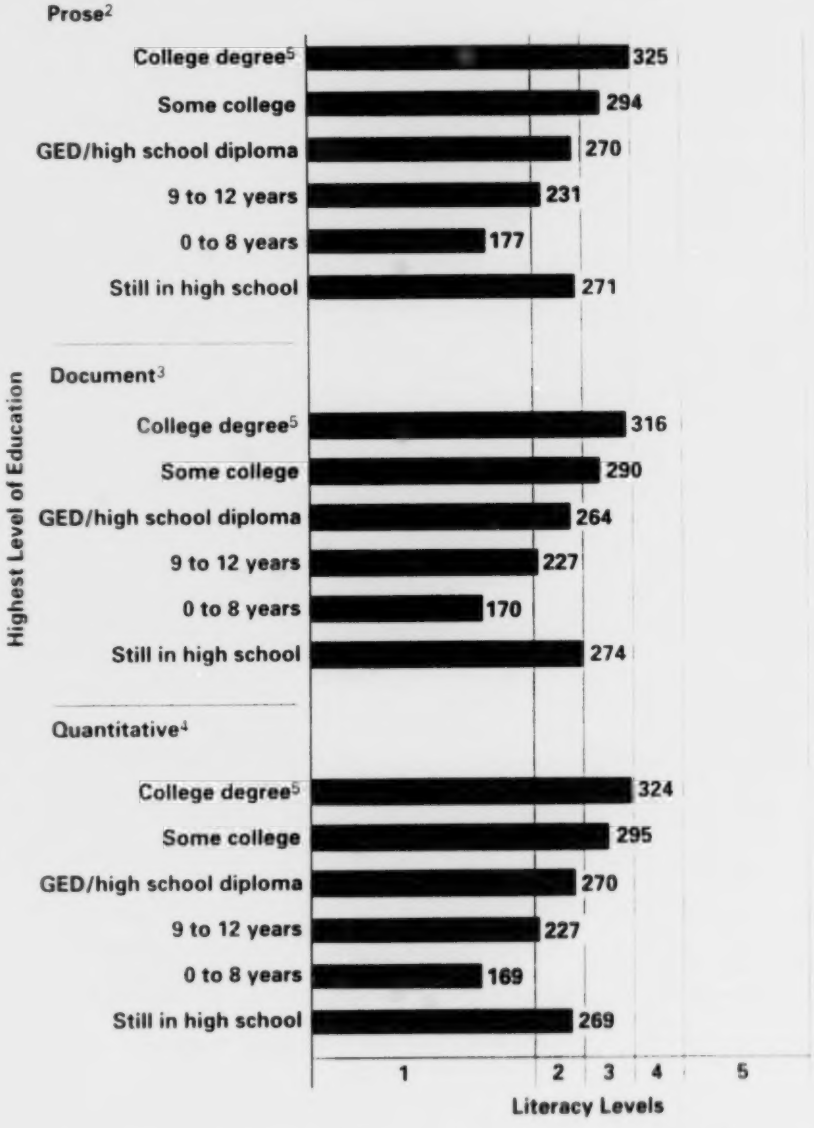
[5] Quantitative literacy tasks require readers to perform arithmetic computations using numbers found in printed materials.

Source: National Center for Education Statistics, 1993

Exhibit 77

Adult Literacy, by Highest Level of Education

Average literacy score[1] of adults aged 16 and older on prose, document, and quantitative literacy scales, by highest level of education, 1992



On average, adults with a high school credential or less scored in the two lowest English literacy levels. However, even adults with college degrees scored, on average, no higher than the third of five literacy levels.

Level 5 =	376 to 500 points
Level 4 =	326 to 375 points
Level 3 =	276 to 325 points
Level 2 =	226 to 275 points
Level 1 =	0 to 225 points

[1] Test results are reported on scales of 0 to 500 points. Scores are grouped into five levels, with Level 5 being most proficient and Level 1 being least proficient. Complete descriptions of each level can be found in Appendix A.

[2] Prose literacy tasks require readers to understand and use information contained in texts such as newspapers and pamphlets.

[3] Document literacy tasks require readers to locate and use information contained in materials such as tables, charts, and maps.

[4] Quantitative literacy tasks require readers to perform arithmetic computations using numbers found in printed materials.

[5] Includes 2-year, 4-year, graduate, and professional degrees.

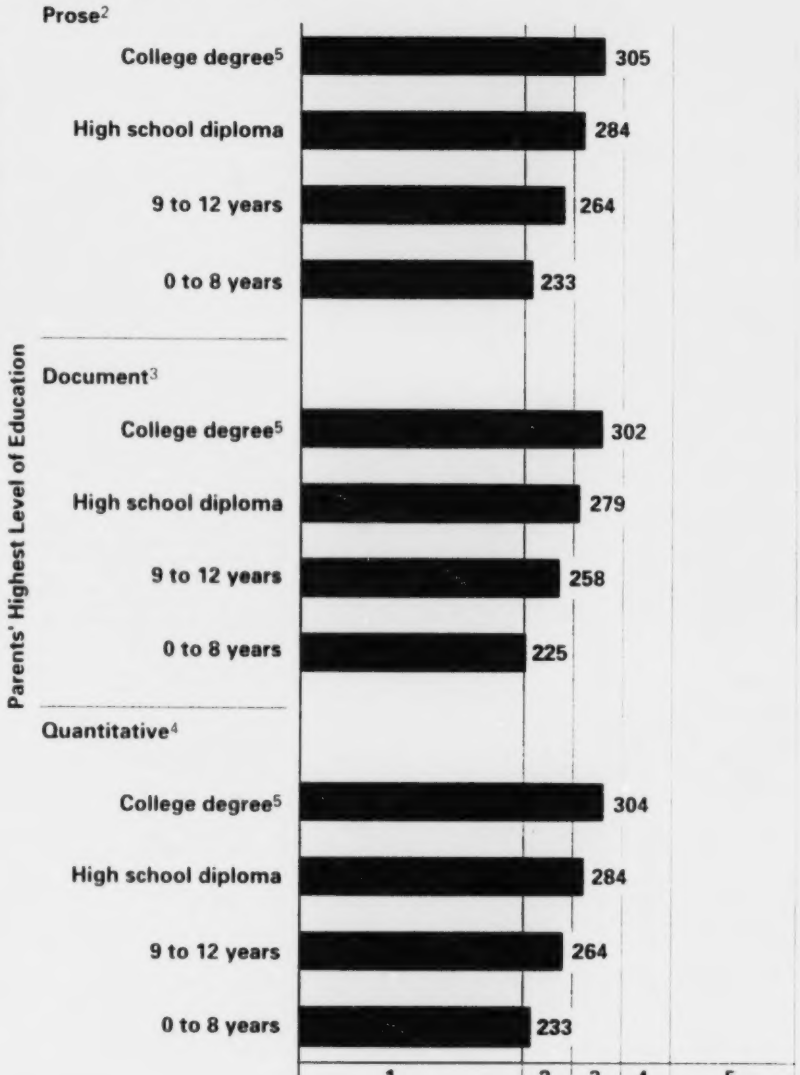
Source: National Center for Education Statistics, 1993

Exhibit 78

Adult Literacy, by Parents' Highest Level of Education

Average literacy score[1] of adults aged 16 and older on prose, document, and quantitative literacy scales, by their parents' highest level of education, 1992

On average, adults whose parents had completed high school or beyond scored 1 to 1½ levels higher on English literacy tasks in 1992 than adults whose parents had not completed high school.



Level 5 =	376 to 500 points
Level 4 =	326 to 375 points
Level 3 =	276 to 325 points
Level 2 =	226 to 275 points
Level 1 =	0 to 225 points

[1] Test results are reported on scales of 0 to 500 points. Scores are grouped into five levels, with Level 5 being most proficient and Level 1 being least proficient. Complete descriptions of each level can be found in Appendix A.

[2] Prose literacy tasks require readers to understand and use information contained in texts such as newspapers and pamphlets.

[3] Document literacy tasks require readers to locate and use information contained in materials such as tables, charts, and maps.

[4] Quantitative literacy tasks require readers to perform arithmetic computations using numbers found in printed materials.

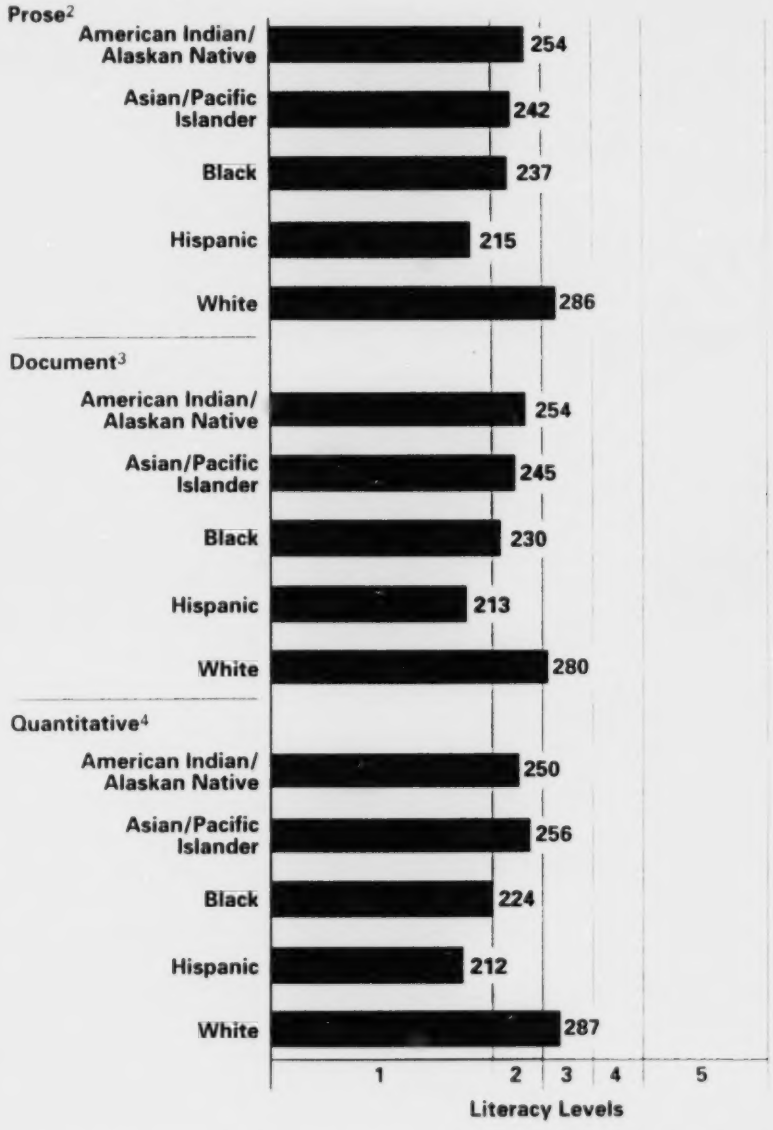
[5] Includes 4-year, graduate, and professional degrees.

Source: National Center for Education Statistics, 1993

Exhibit 79

Adult Literacy, by Race/Ethnicity

Average literacy score[1] of adults aged 16 and older on prose, document, and quantitative literacy scales, by race/ethnicity, 1992



Average English literacy scores were highest among White adults and lowest among Hispanics. However, among Hispanics, literacy scores were markedly higher among adults born in the U.S. than among immigrants.

Level 5 =	376 to 500 points
Level 4 =	326 to 375 points
Level 3 =	276 to 325 points
Level 2 =	226 to 275 points
Level 1 =	0 to 225 points

Average Literacy Scores for Hispanic Subgroups, by Country of Birth

	Country of Birth	
	U.S.	Other
Prose		
All Hispanics	252	175
Cuban*	—	202
Central/South American	281	187
Mexican	247	158
Puerto Rican	226	186
Other Hispanic	283	210
Document		
All Hispanics	249	174
Cuban*	—	204
Central/South American	277	188
Mexican	245	158
Puerto Rican	225	171
Other Hispanic	277	204
Quantitative		
All Hispanics	247	173
Cuban*	—	217
Central/South American	275	185
Mexican	244	158
Puerto Rican	223	166
Other Hispanic	271	191

* Sample size of Cuban adults born in the U.S. insufficient to produce reliable estimates of literacy proficiency.

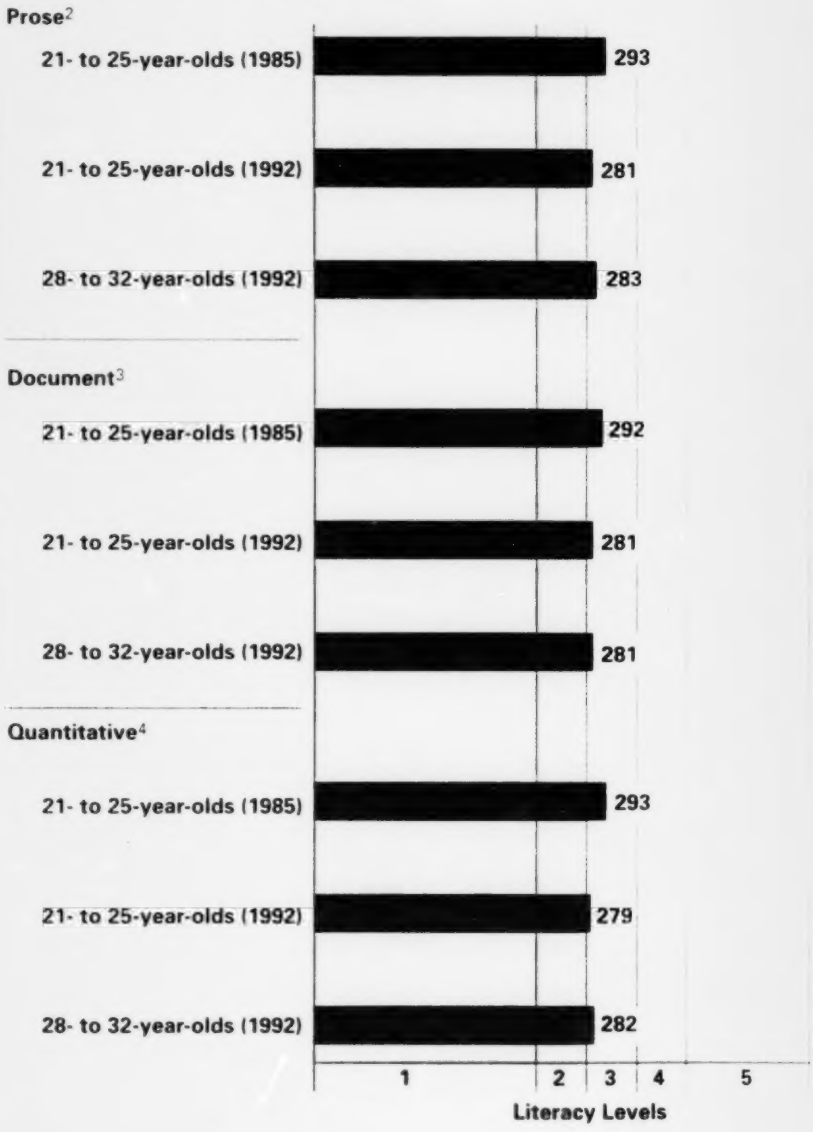
[1] Test results are reported on scales of 0 to 500 points. Scores are grouped into five levels, with Level 5 being most proficient and Level 1 being least proficient. Complete descriptions of each level can be found in Appendix A.
[2] Prose literacy tasks require readers to understand and use information contained in texts such as newspapers and pamphlets.
[3] Document literacy tasks require readers to locate and use information contained in materials such as tables, charts, and maps.
[4] Quantitative literacy tasks require readers to perform arithmetic computations using numbers found in printed materials.

Source: National Center for Education Statistics and Educational Testing Service, 1993

Exhibit 80
Young Adult Literacy

Average literacy score[1] of young adults aged 21-25 in 1985 and in 1992, and young adults aged 28-32 in 1992, on prose, document, and quantitative literacy scales

In 1992, average English literacy scores of 21- to 25-year-olds and 28- to 32-year-olds were slightly lower than the scores of young adults seven years earlier.



Level 5 =	376 to 500 points
Level 4 =	326 to 375 points
Level 3 =	276 to 325 points
Level 2 =	226 to 275 points
Level 1 =	0 to 225 points

[1] Test results are reported on scales of 0 to 500 points. Scores are grouped into five levels, with Level 5 being most proficient and Level 1 being least proficient. Complete descriptions of each level can be found in Appendix A.

[2] Prose literacy tasks require readers to understand and use information contained in texts such as newspapers and pamphlets.

[3] Document literacy tasks require readers to locate and use information contained in materials such as tables, charts, and maps.

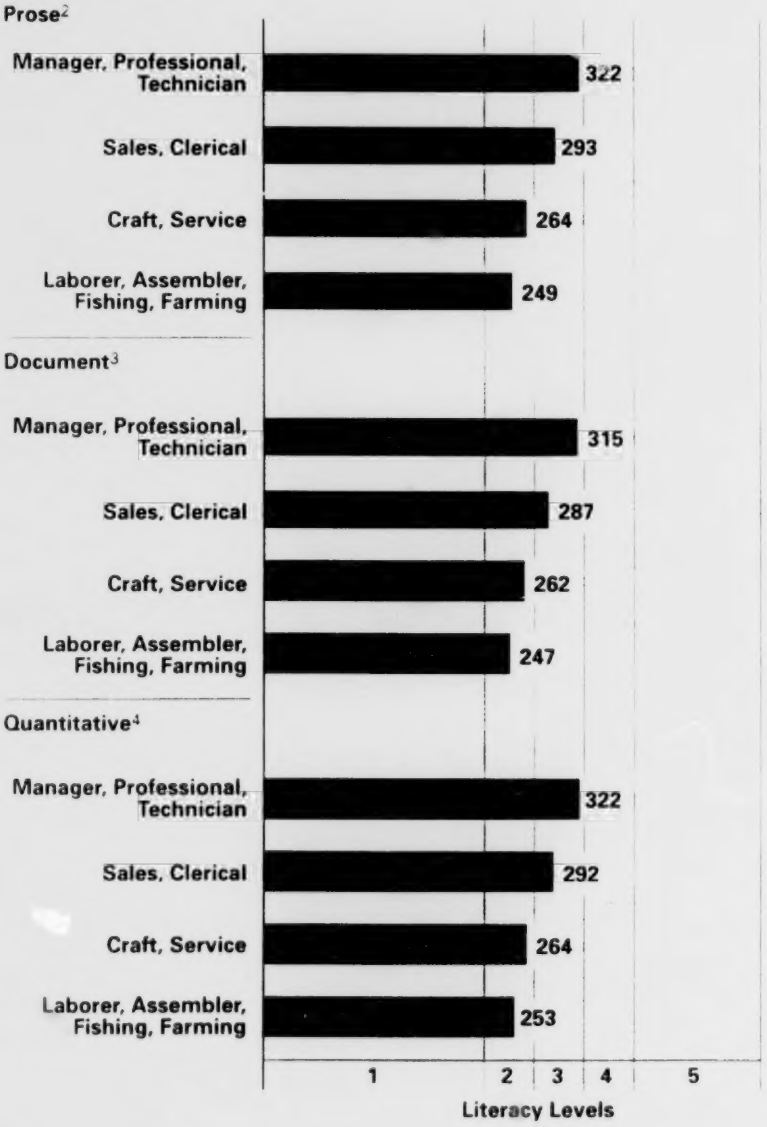
[4] Quantitative literacy tasks require readers to perform arithmetic computations using numbers found in printed materials.

Source: National Center for Education Statistics, 1993

Exhibit 81

Adult Literacy, by Occupation

Average literacy score[1] of adults aged 16 and older on prose, document, and quantitative literacy scales, by occupational category, 1992



On average, English literacy scores attained by adults in white-collar occupations were one level higher than scores attained by adults in blue-collar occupations.

Level 5 =	376 to	500 points
Level 4 =	326 to	375 points
Level 3 =	276 to	325 points
Level 2 =	226 to	275 points
Level 1 =	0 to	225 points

[1] Test results are reported on scales of 0 to 500 points. Scores are grouped into five levels, with Level 5 being most proficient and Level 1 being least proficient. Complete descriptions of each level can be found in Appendix A.

[2] Prose literacy tasks require readers to understand and use information contained in texts such as newspapers and pamphlets.

[3] Document literacy tasks require readers to locate and use information contained in materials such as tables, charts, and maps.

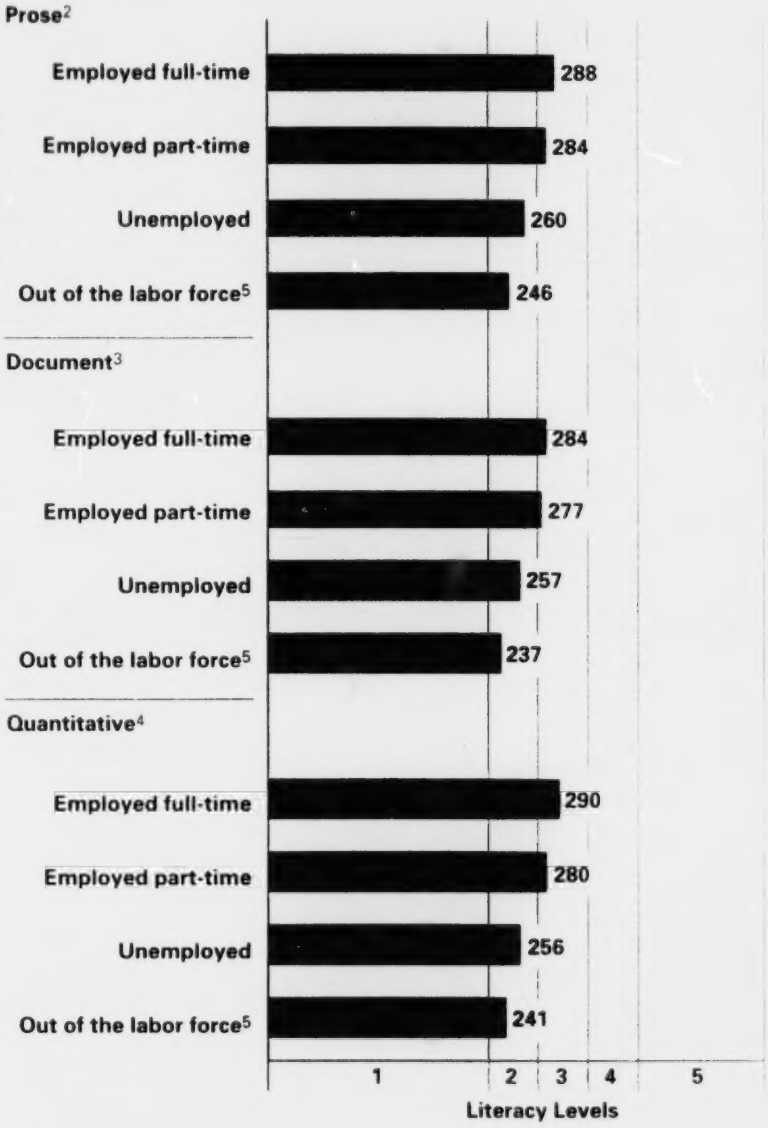
[4] Quantitative literacy tasks require readers to perform arithmetic computations using numbers found in printed materials.

Source: National Center for Education Statistics, 1993

Exhibit 82
Adult Literacy, by Employment Status

Average literacy score[1] of adults aged 16 and older on prose, document, and quantitative literacy scales, by employment status, 1992

On average, English literacy scores attained by employed adults were one level higher than scores attained by unemployed adults or those out of the labor force.



Level 5 =	376 to 500	points
Level 4 =	326 to 375	points
Level 3 =	276 to 325	points
Level 2 =	226 to 275	points
Level 1 =	0 to 225	points

[1] Test results are reported on scales of 0 to 500 points. Scores are grouped into five levels, with Level 5 being most proficient and Level 1 being least proficient. Complete descriptions of each level can be found in Appendix A.

[2] Prose literacy tasks require readers to understand and use information contained in texts such as newspapers and pamphlets.

[3] Document literacy tasks require readers to locate and use information contained in materials such as tables, charts, and maps.

[4] Quantitative literacy tasks require readers to perform arithmetic computations using numbers found in printed materials.

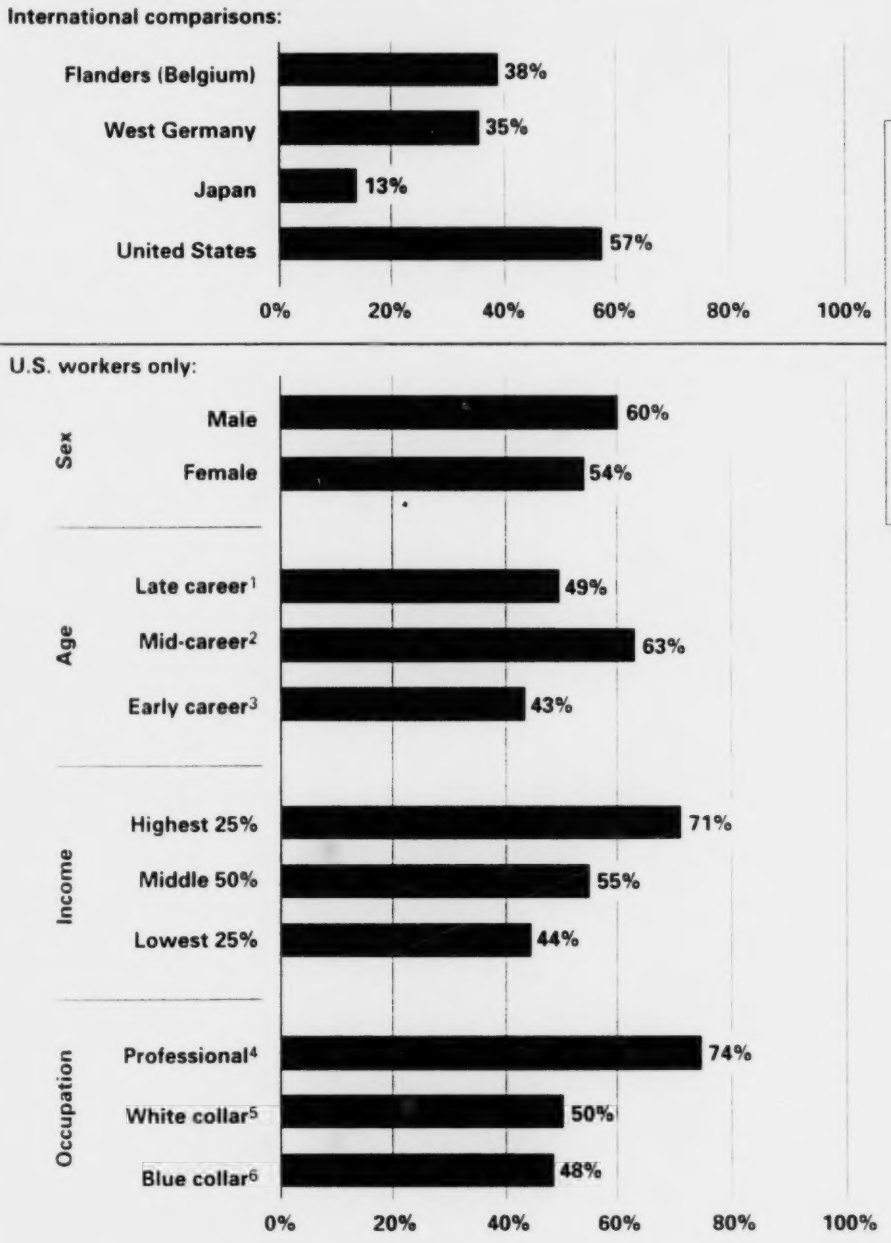
[5] Includes those not employed and not looking for work, such as full-time students, homemakers, retirees, unpaid volunteers, etc.

Source: National Center for Education Statistics, 1993

Exhibit 83

Perceived Usefulness of Skills in the Future

Percentage of adult workers who reported that their present job skills will be very useful in five years, 1989-91



U.S. workers were far more likely than Belgian, German, or Japanese workers to predict that their present job skills will be very useful in five years. U.S. satisfaction with current levels of job skills contrasts most sharply with Japan, where fewer than one in five workers predict that their skills will be sufficient to meet job demands in the future.

[1] Includes 51+-year-olds.
[2] Includes 26- to 50-year-olds.
[3] Includes 25-year-olds and younger.
[4] Includes owner-manager, professional, and managerial occupational categories.
[5] Includes supervisor-white collar, and white collar occupational categories.
[6] Includes supervisor-blue collar, and blue collar occupational categories.

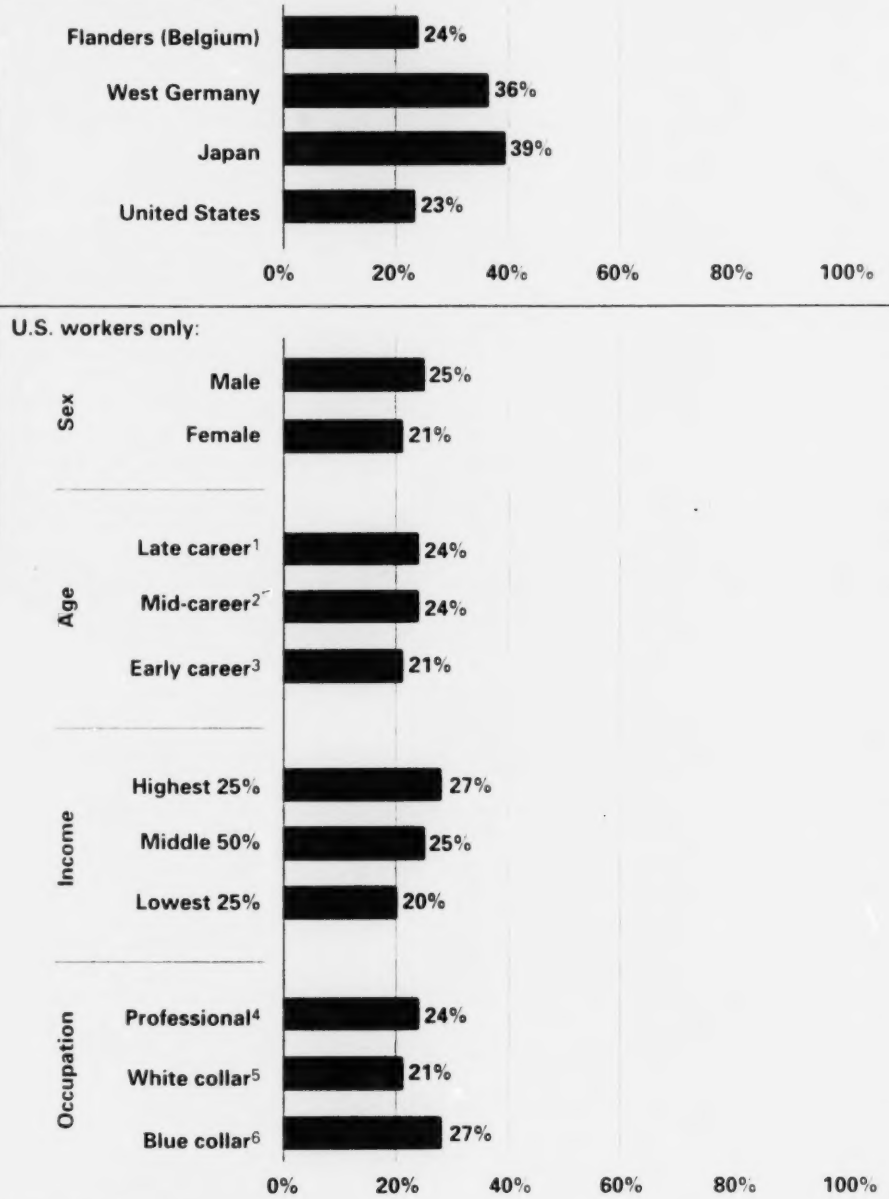
Source: Cornell University, 1992
This exhibit repeats information presented in the 1992 Goals Report

Exhibit 84

Perceived Responsibility for Improving Job Performance

Percentage of adult workers who strongly agreed that workers should be expected to think up better ways to do their jobs, 1989-91

Delegating responsibility to employees to inspect quality, improve productivity, and design better ways to do their own jobs has been found to be a characteristic common to many competitive, high-performance companies. Yet U.S. workers were much less likely than German and Japanese workers to report that they strongly agreed that workers should be expected to think up better ways to do their jobs.



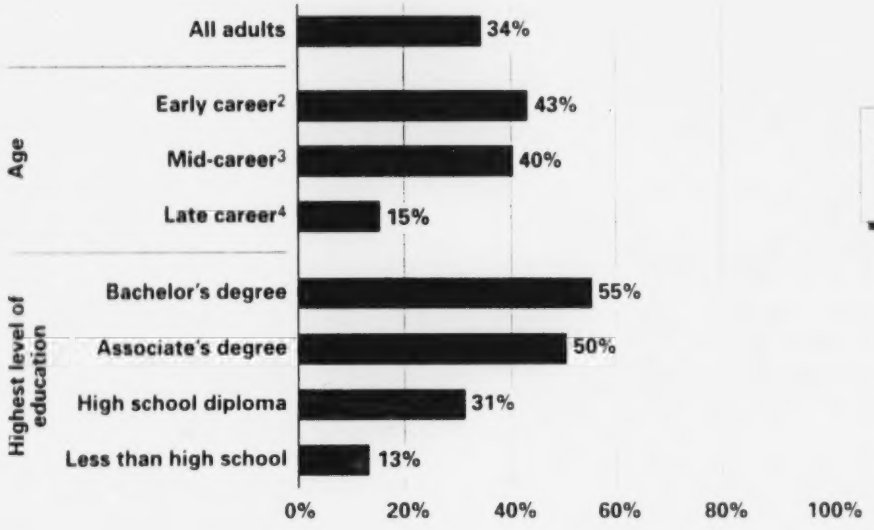
[1] Includes 51+-year-olds.
[2] Includes 26- to 50-year-olds.
[3] Includes 25-year-olds and younger.
[4] Includes owner-manager, professional, and managerial occupational categories.
[5] Includes supervisor-white collar, and white collar occupational categories.
[6] Includes supervisor-blue collar, and blue collar occupational categories.

Source: Cornell University, 1992.
This exhibit repeats information presented in the 1992 Goals Report.

Exhibit 85

Participation in Adult Education

Percentage of all adults[1] 17 years and older who took adult education courses during the previous 12 months, 1991



About one-third of all adults took adult education courses during 1990-91.

[1] Excluding those participating in full-time educational programs exclusively.
[2] Includes 17- to 34-year-olds.
[3] Includes 35- to 54-year-olds.
[4] Includes 55+-year-olds.

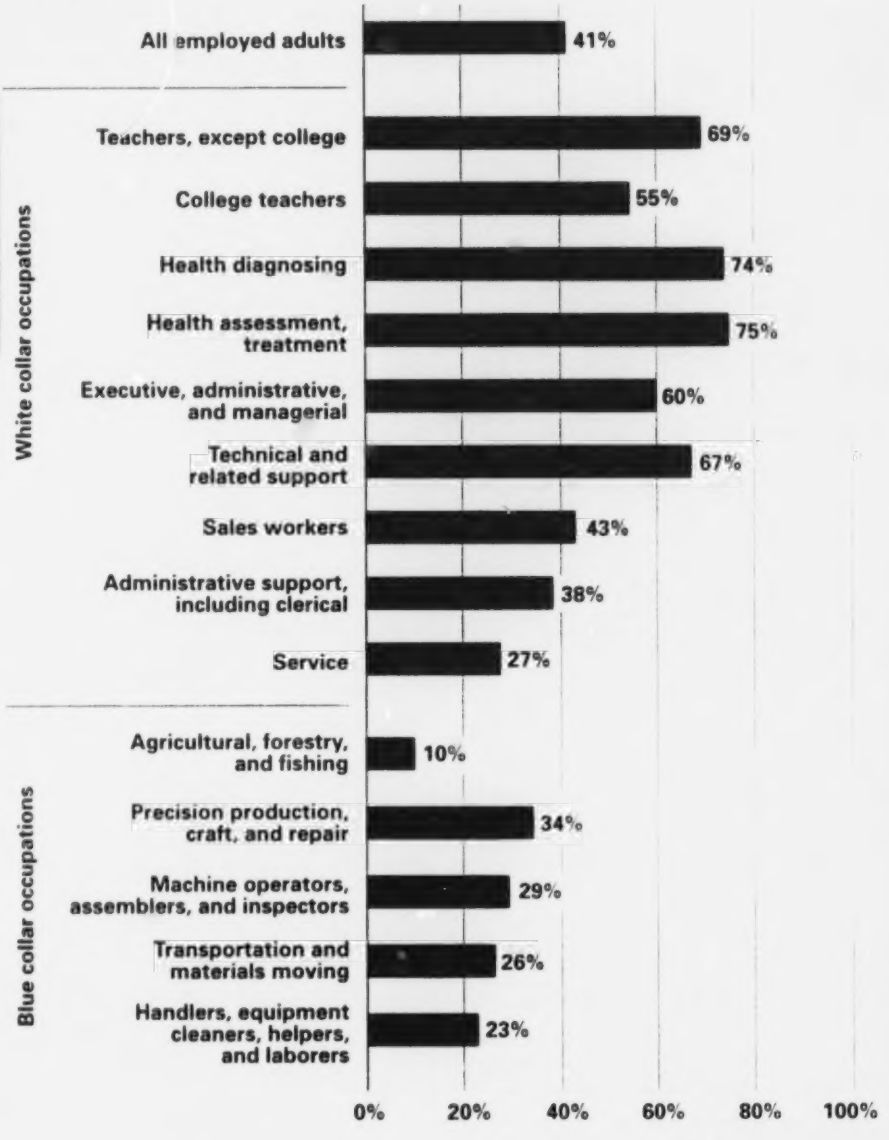
Source: National Center for Education Statistics and Westat, Inc., 1991
This exhibit repeats information presented in the 1992 Goals Report

About four out of ten employed adults took adult education courses during 1990-91. In general, white collar workers were more likely than blue collar workers to participate in this type of training.

Exhibit 86

Participation in Adult Education, by Occupation

Percentage of employed adults[1] 17 years and older who took one or more adult education courses during the previous 12 months, 1991



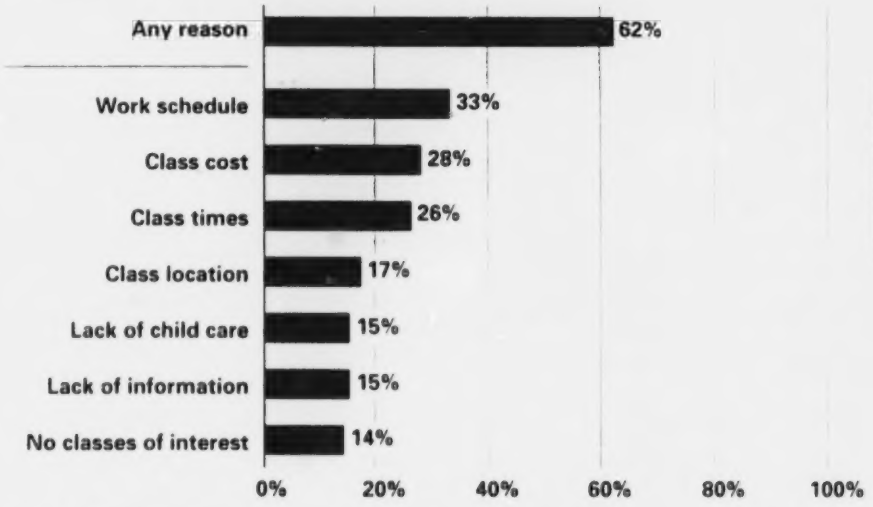
[1] Excluding unemployed persons and persons not in the labor force, such as retirees, homemakers, etc. Excluding those participating in full-time educational programs exclusively.

Source: National Center for Education Statistics and Westat, Inc., 1993.
This exhibit modifies information presented in the 1992 Goals Report.

Exhibit 87

Barriers to Adult Education

Percentage of all adults[1] 17 years and older who believed that barriers kept them from taking adult education courses during the previous 12 months, by reason, 1991



[1] Excluding those participating in full-time educational programs exclusively.

Almost two-thirds of all adults believed that barriers kept them from taking adult education courses during 1990-91.

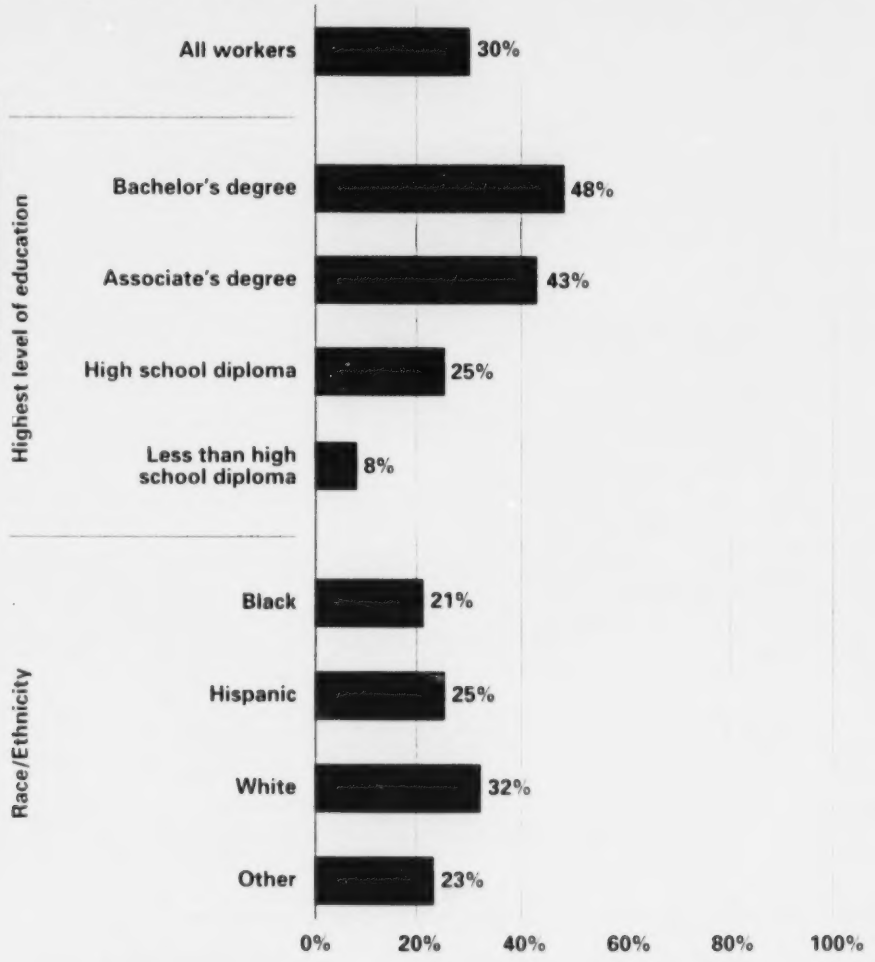
Source: National Center for Education Statistics and Westat, Inc., 1991
This exhibit repeats information presented in the 1992 Goals Report.

Exhibit 88

Employer Support for Adult Education

Percentage of all workers[1] 17 years and older who reported receiving some type of employer support for adult education during the previous 12 months, 1991

During 1990-91, three out of every ten workers received some type of support from their employers, such as time off from work or payment toward fees or tuition, so that they could participate in adult education courses.



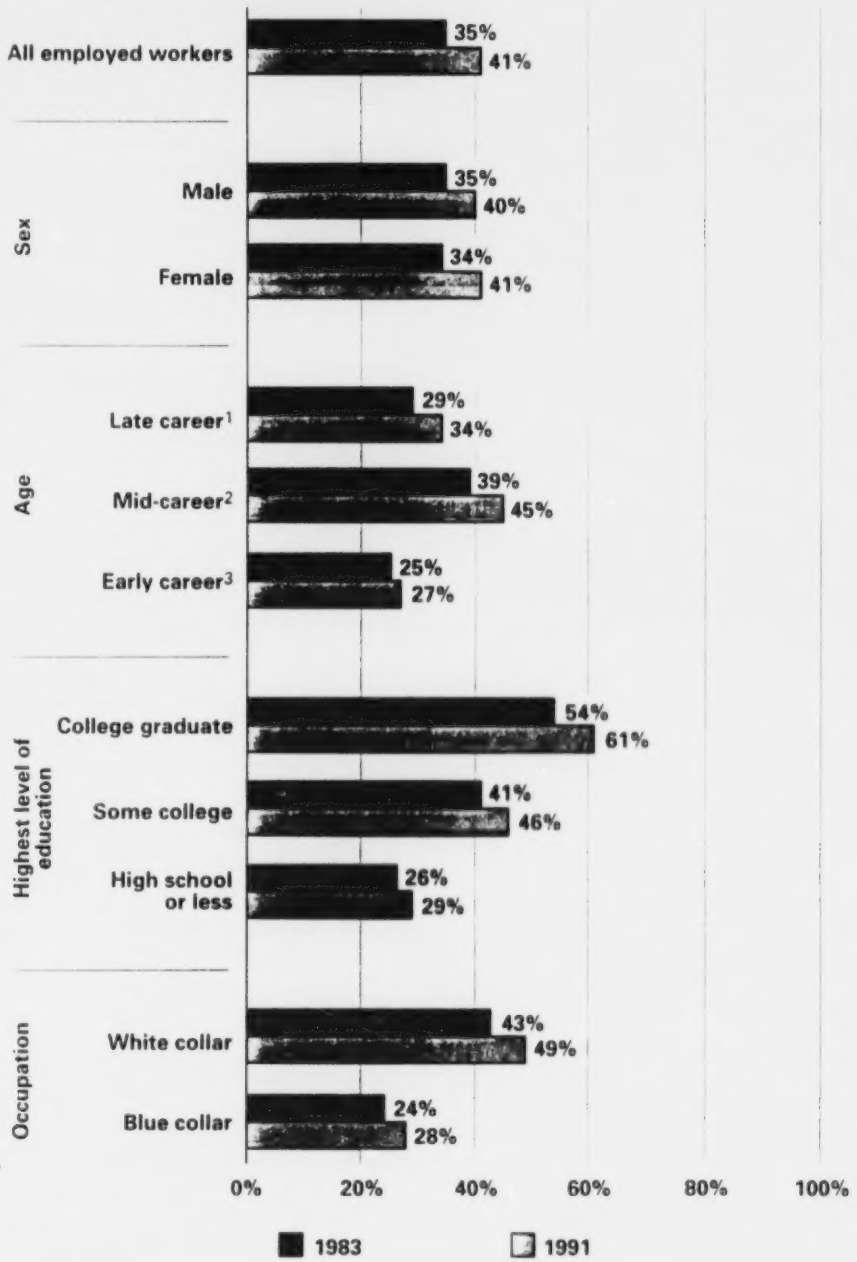
[1] All employed adults excluding those participating exclusively in full-time educational programs.

Source: National Center for Education Statistics and Westat, Inc., 1991
This exhibit repeats information presented in the 1992 Goals Report.

Exhibit 89

Worker Training

Percentage of U.S. workers who took training to improve their current job skills, 1983 and 1991



[1] Includes 55+-year-olds.
[2] Includes 25- to 54-year-olds.
[3] Includes 24-year-olds and younger.

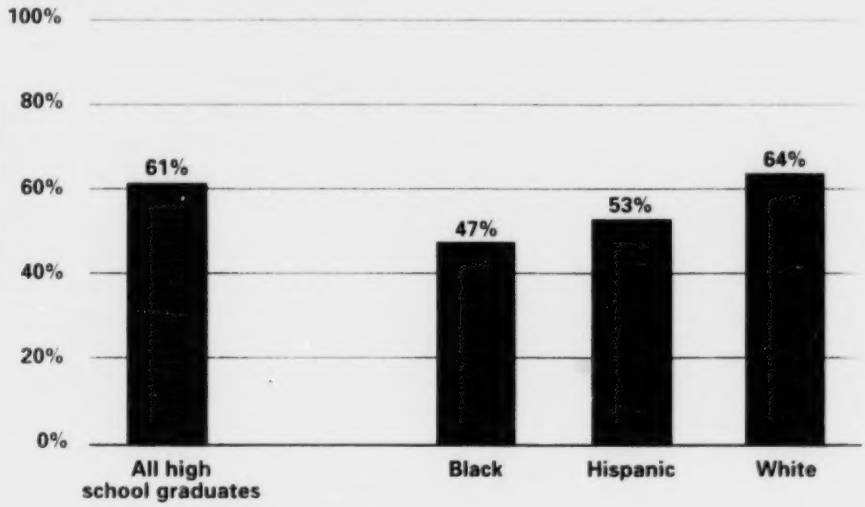
Between 1983 and 1991, the percentage of U.S. workers who took training to improve their current job skills rose from 35% to 41%. White collar workers, college graduates, and workers in mid-career were most likely to pursue further training.

Source: Bureau of Labor Statistics, 1992
This exhibit repeats information presented in the 1992 Goals Report

Exhibit 90
College Enrollment

Percentage[1] of high school graduates who enrolled in two- or four-year colleges[2] immediately after graduation, 1991

About six out of ten 1991 high school graduates enrolled in either two- or four-year colleges immediately after graduation.



[1] Three-year averages (1990-1992).
[2] Includes junior colleges, community colleges, and universities.

Change Since 1989[1]

Percentage of high school graduates who enrolled in two- or four-year colleges immediately after graduation:

	1989[2]	1991[3]
All high school graduates	60	61
Black	48	47
Hispanic	53	53
White	62	64

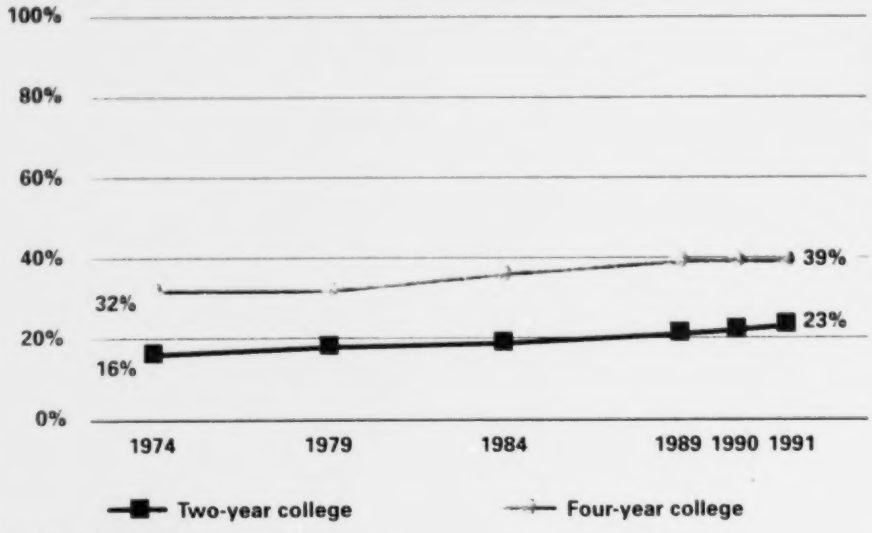
[1] Interpret with caution. Data are from a representative national survey. The changes shown could be attributable to sampling error. In cases noted with an asterisk, we are confident that change has occurred.
[2] Three-year averages (1988-1990).
[3] Three-year averages (1990-1992).

Source: Bureau of the Census and National Center for Education Statistics, 1993
This exhibit updates information presented in the 1992 Goals Report.

Exhibit 91

Trends in College Enrollment

Percentage[1] of high school graduates who enrolled in two- or four-year colleges[2] immediately after graduation, 1974 to 1991



[1] Three-year averages.
[2] Includes junior colleges, community colleges, and universities.

Combined Enrollment in Two- and Four-Year Colleges

	1974	1991	Change
All students	48%	61%	+13
Black	40%	47%	+7
Hispanic	53%	53%	—
White	49%	64%	+15

Enrollments in post-secondary institutions immediately following high school increased markedly between 1974 and 1991.

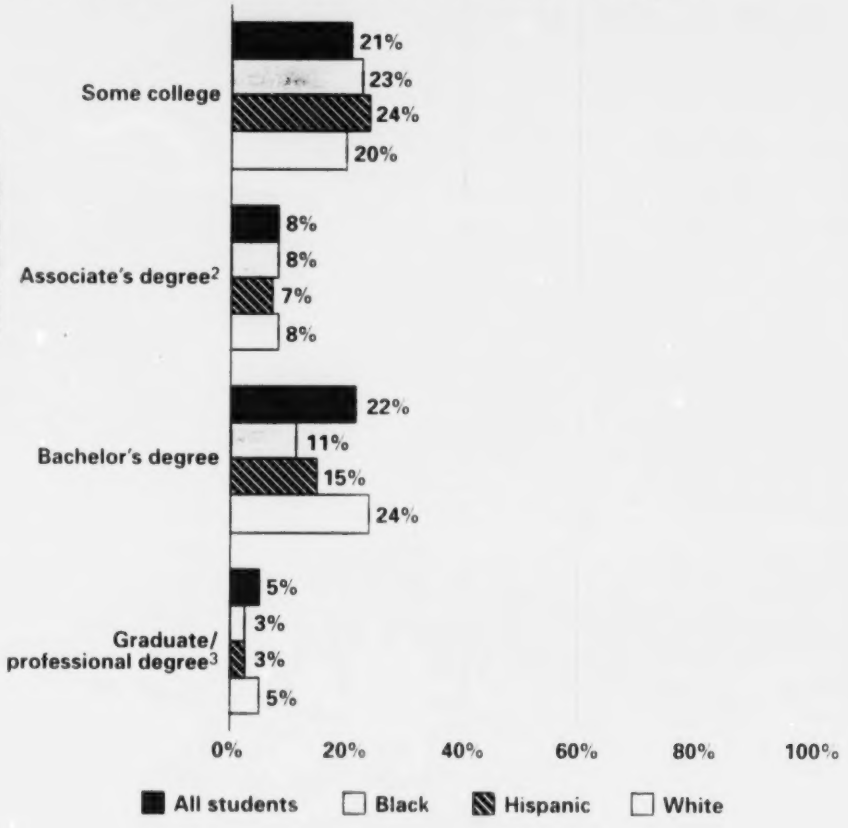
Source: Bureau of the Census and National Center for Education Statistics, 1993
This exhibit updates information presented in the 1992 Goals Report.

Exhibit 92

College Completion

Percentage of high school graduates aged 25-29 who have completed the following levels of education,[1] 1992

In 1992, three out of ten high school graduates aged 25-29 possessed an associate's or bachelor's degree. An additional 5% had a postgraduate degree.



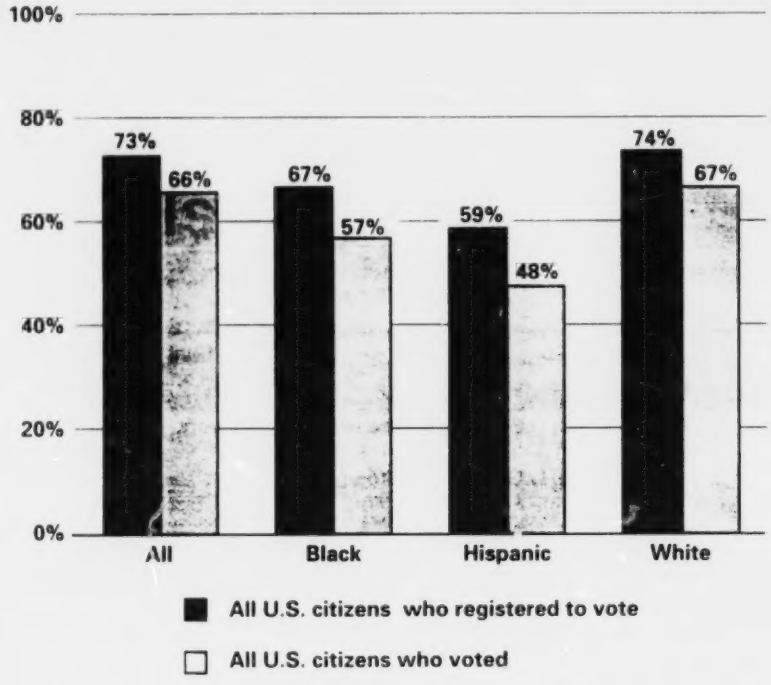
[1] Percentages represent highest level of education completed.
[2] Combines occupational/vocational and academic degrees.
[3] Combines master's, doctoral, and professional degrees.

Source: Bureau of the Census, National Center for Education Statistics, and Pinkerton Computer Consultants, 1993.
This exhibit modifies and updates information presented in the 1992 Goals Report.

Exhibit 93

Voter Registration and Voting

Percentages of all U.S. citizens who registered to vote and who voted, 1992



In 1992, 73% of all U.S. citizens were registered to vote, while about two-thirds actually voted.

Change Since 1988[1]

Percentages of all U.S. citizens who registered to vote and who voted:

	Registered to vote		Voted	
	1988	1992	1988	1992
All	70	73 *	61	66 *
Black	67	67	53	57 *
Hispanic	57	59	46	48
White	71	74 *	62	67 *

[1] Interpret with caution. Data are from a representative national survey. The changes shown could be attributable to sampling error. In cases noted with an asterisk, we are confident that change has occurred.

Between 1988 and 1992, the percentages of U.S. citizens who registered to vote and who voted increased.

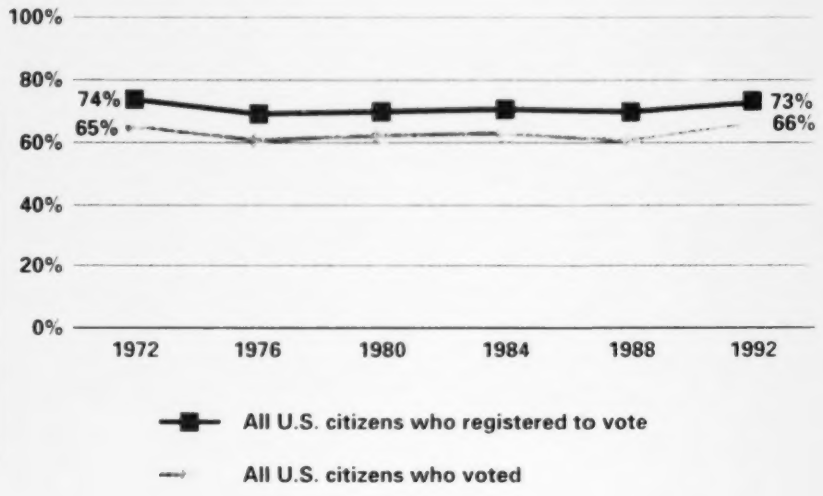
Source: Bureau of the Census, 1989 and 1993
This exhibit updates information presented in the 1992 Goals Report.

Exhibit 94

Trends in Voter Registration and Voting

Percentages of all U.S. citizens who registered to vote and who voted, 1972 to 1992

The percentages of U.S. citizens who registered to vote and who actually voted in national elections in 1992 were almost identical to the percentages 20 years earlier. Voter participation declined between 1972 and 1976, held steady between 1976 and 1988, and then increased between 1988 and 1992.

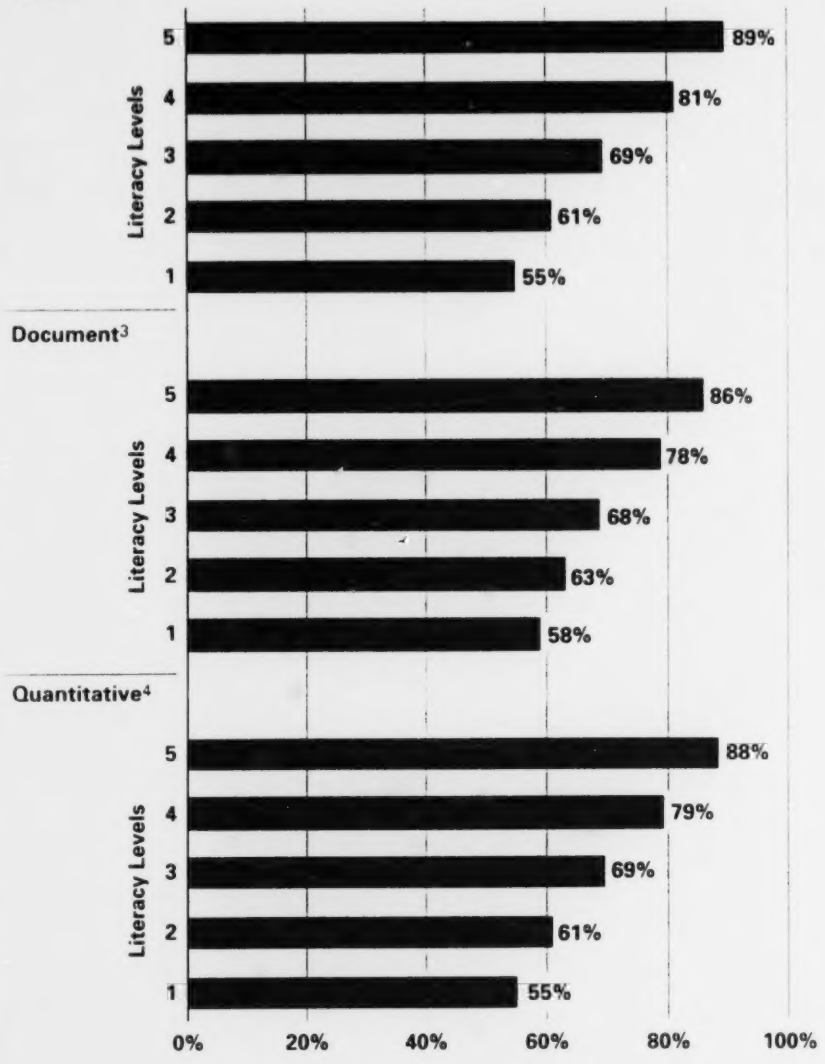


Source: Bureau of the Census, various years
This exhibit updates information presented in the 1992 Goals Report

Exhibit 95

Voting Behavior, by Literacy Level

Percentage of adults eligible to vote who voted in a national or state election during the previous five years, by literacy level,[1] 1992



In 1992, nearly 90% of the adults at the highest level of English literacy (Level 5) had voted in a national or state election during the previous five years, compared to about 55% of the adults at the lowest level of literacy (Level 1).

Level 5 =	376 to 500 points
Level 4 =	326 to 375 points
Level 3 =	276 to 325 points
Level 2 =	226 to 275 points
Level 1 =	0 to 225 points

[1] Test results are reported on scales of 0 to 500 points. Scores are grouped into five levels, with Level 5 being most proficient and Level 1 being least proficient. Complete descriptions of each level can be found in Appendix A.

[2] Prose literacy tasks require readers to understand and use information contained in texts such as newspapers and pamphlets.

[3] Document literacy tasks require readers to locate and use information contained in materials such as tables, charts, and maps.

[4] Quantitative literacy tasks require readers to perform arithmetic computations using numbers found in printed materials.

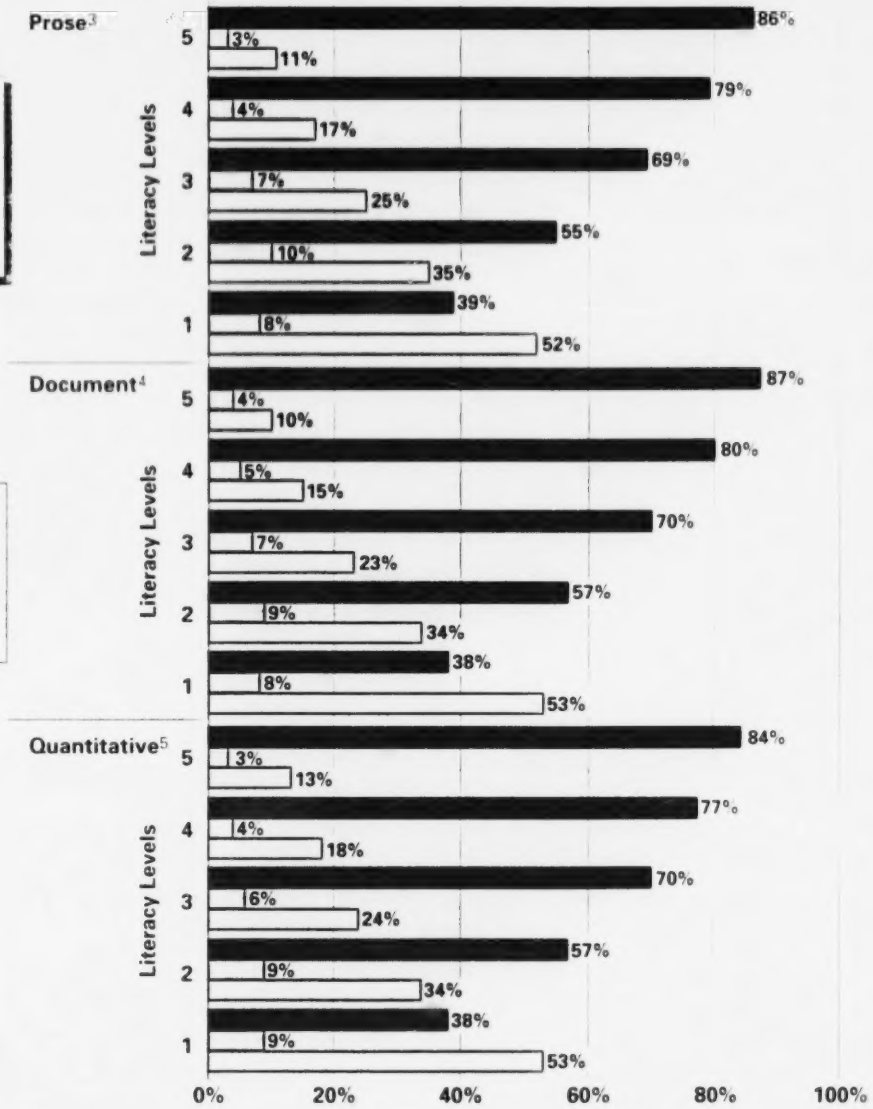
Source: National Center for Education Statistics, 1993

Exhibit 96

Adults In and Out of the Labor Force, by Literacy Level

Percentage of adults aged 16 and older who were employed, unemployed, or out of the labor force,[1] by literacy level,[2] 1992

In 1992, adults who scored at higher literacy levels were far more likely to have been employed than those who scored at the lower literacy levels.



Level 5 =	376 to 500 points
Level 4 =	326 to 375 points
Level 3 =	276 to 325 points
Level 2 =	226 to 275 points
Level 1 =	0 to 225 points

[1] Includes those not employed and not looking for work, such as full-time students, homemakers, retirees, unpaid volunteers, etc.

[2] Test results are reported on scales of 0 to 500 points. Scores are grouped into five levels, with Level 5 being most proficient and Level 1 being least proficient. Complete descriptions of each level can be found in Appendix A.

[3] Prose literacy tasks require readers to understand and use information contained in texts such as newspapers and pamphlets.

[4] Document literacy tasks require readers to locate and use information contained in materials such as tables, charts, and maps.

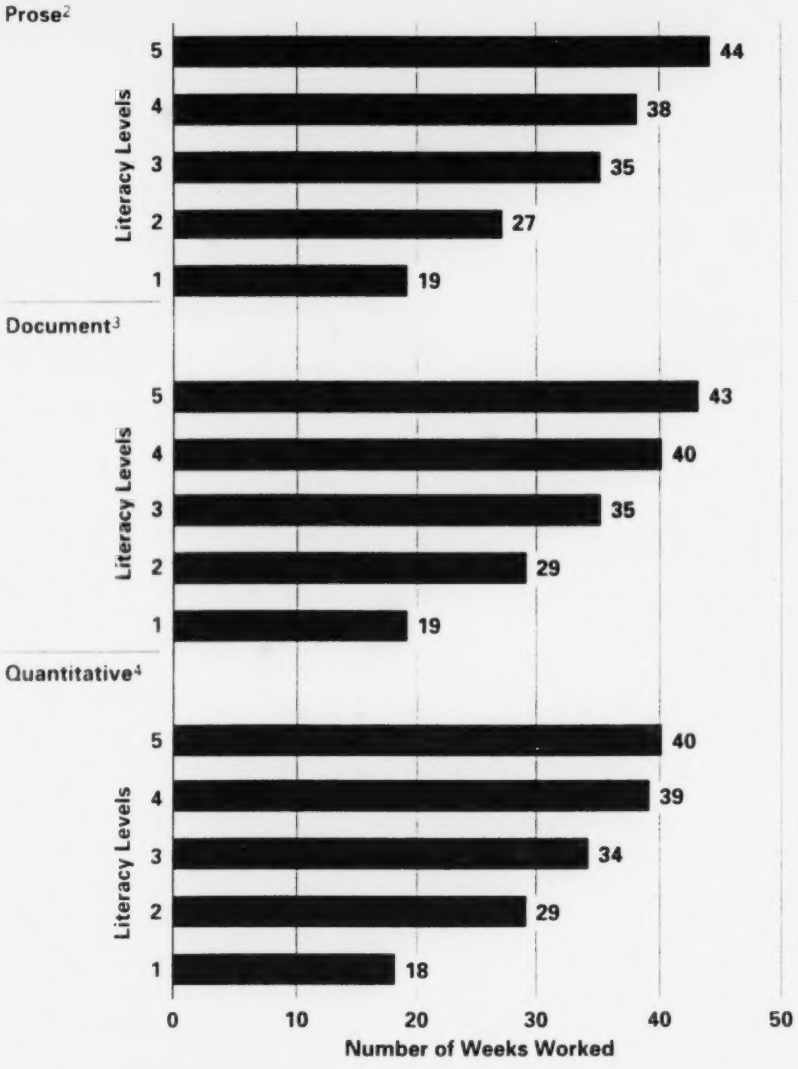
[5] Quantitative literacy tasks require readers to perform arithmetic computations using numbers found in printed materials.

Source: National Center for Education Statistics, 1993

Exhibit 97

Average Number of Weeks Worked, by Literacy Level

Average number of weeks worked during the previous 12 months by adults aged 16 and older, by literacy level,[1] 1992



In 1992, adults at the highest level of English literacy (Level 5) had worked, on average, more than twice as many weeks during the previous year as adults at the lowest level of literacy (Level 1).

Level 5 =	376 to 500 points
Level 4 =	326 to 375 points
Level 3 =	276 to 325 points
Level 2 =	226 to 275 points
Level 1 =	0 to 225 points

[1] Test results are reported on scales of 0 to 500 points. Scores are grouped into five levels, with Level 5 being most proficient and Level 1 being least proficient. Complete descriptions of each level can be found in Appendix A.

[2] Prose literacy tasks require readers to understand and use information contained in texts such as newspapers and pamphlets.

[3] Document literacy tasks require readers to locate and use information contained in materials such as tables, charts, and maps.

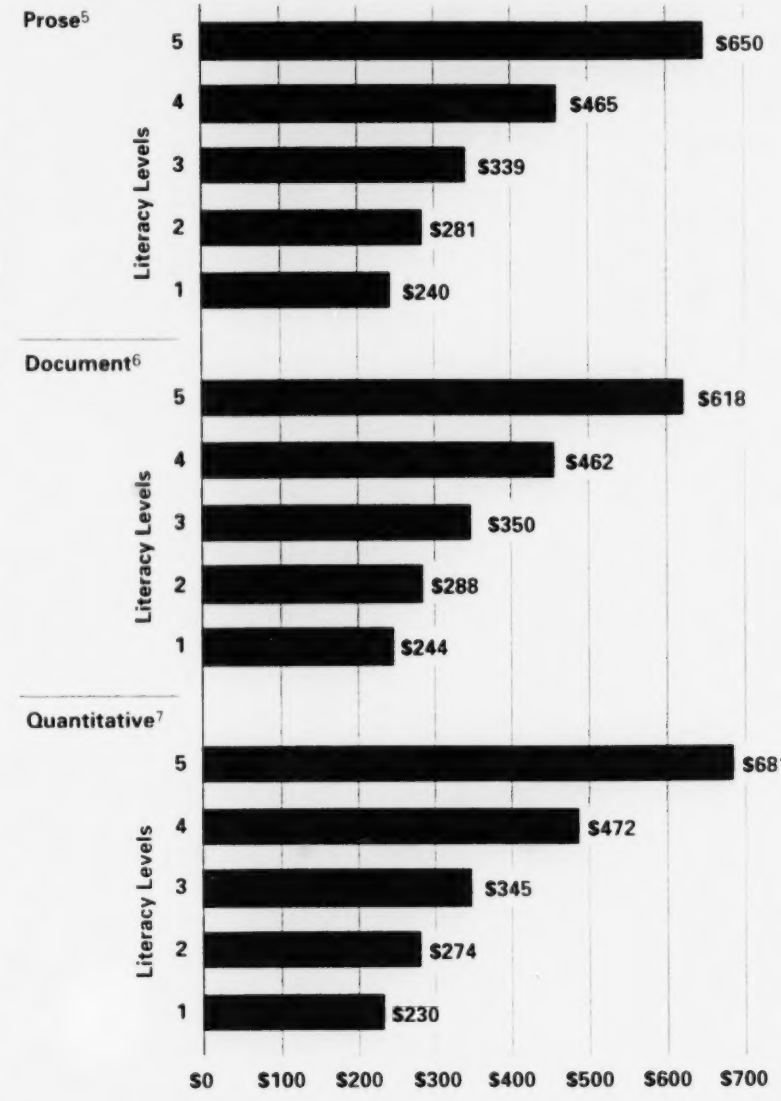
[4] Quantitative literacy tasks require readers to perform arithmetic computations using numbers found in printed materials.

Source: National Center for Education Statistics, 1993

Exhibit 98
Median Weekly Wages, by Literacy Level

Median[1] weekly wages[2] of adults aged 16 and older,[3] by literacy level,[4] 1992

In 1992, median weekly wages earned by adults at the highest level of English literacy (Level 5) were more than double the median weekly wages of adults at the lowest level of literacy (Level 1).



Level 5 =	376 to 500 points
Level 4 =	326 to 375 points
Level 3 =	276 to 325 points
Level 2 =	226 to 275 points
Level 1 =	0 to 225 points

[1] The median is the midpoint. Weekly wages for half of the adults at each literacy level would be above the reported figure, and weekly wages for half would be below.

[2] Before deductions.

[3] Includes adults who were employed full-time, part-time, or on leave the week before the survey was administered.

[4] Test results are reported on scales of 0 to 500 points. Scores are grouped into five levels, with Level 5 being most proficient and Level 1 being least proficient. Complete descriptions of each level can be found in Appendix A.

[5] Prose literacy tasks require readers to understand and use information contained in texts such as newspapers and pamphlets.

[6] Document literacy tasks require readers to locate and use information contained in materials such as tables, charts, and maps.

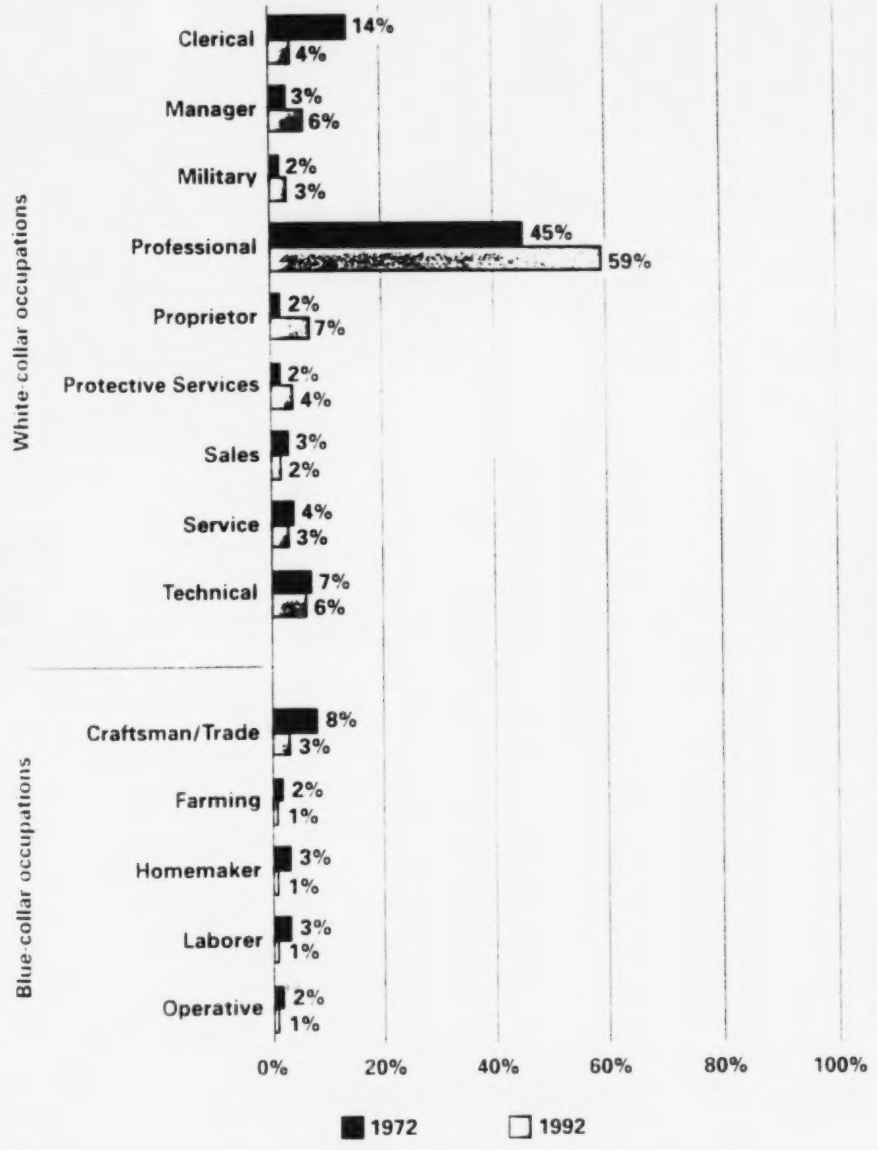
[7] Quantitative literacy tasks require readers to perform arithmetic computations using numbers found in printed materials.

Source: National Center for Education Statistics, 1992

Exhibit 99

Career Expectations of High School Seniors

Percentage of high school seniors who expected to pursue the following career paths, 1972 and 1992



Over the past twenty years, the percentage of high school seniors who expect to follow career paths which demand high skills and higher education has increased dramatically, especially among females.

Career Expectations

	Male		Female	
	1972	1992	1972	1992
White Collar:				
Clerical	2%	1%	28%	6%
Manager	5%	7%	1%	5%
Military	4%	6%	1%	1%
Professional	42%	49%	49%	69%
Proprietor	3%	9%	1%	5%
Protective Services	4%	7%	<1%	1%
Sales	3%	2%	3%	2%
Service	2%	1%	7%	5%
Technical	9%	8%	5%	4%
Blue Collar:				
Craftsman/Trade	15%	5%	1%	<1%
Farming	3%	2%	1%	<1%
Homemaker	<1%	<1%	6%	2%
Laborer	5%	1%	<1%	<1%
Operative	4%	2%	1%	<1%

Source: National Center for Education Statistics, 1993

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GOAL 6

Safe, Disciplined, and Drug-free Schools

2000

1993

GOAL 6

Safe, Disciplined, and Drug-free Schools

Introduction

No child or youth should be fearful on the way to school, afraid while there, forced to deal with frequent disruptions in the classroom, or pressured to use unhealthy or illegal substances. Students in such environments are much less likely to meet the Goals we set for them: to stay in school, perform at higher academic levels, and excel in mathematics and science. Yet more and more of them must cope with the theft and vandalism of their property. Increasingly, they must deal with in-school assaults by other students with weapons. And, as new data in the 1993 Goals Report reveal, many are approached—inside their schools—by those wanting to give or sell them an illegal drug, and most report that the misbehavior of others interferes with their own learning.

Certainly, Goal 6 cannot be attained by the schools alone. In order for schools to be safe, disciplined, and drug-free, families must foster healthy habits and communities must surround children and youth with positive experiences. Even so, schools have an important role to play in creating healthy learning environments for students.

If teaching and learning are to occur in an environment free of fear of violence, then any percentage of students who report they bring weapons to school is intolerable (the percentages are 9% of 8th graders, 10% of 10th graders, and 6% of 12th graders). The data also tell us that students are aware of considerable gang activity among their peers and that an alarming percentage in secondary schools feel unsafe at school or getting to or coming from school. Many students also report that their teachers frequently have to interrupt class to deal with problems of student misbehavior. And despite a widespread decline in student drug use over the past decade, nearly one in four 12th grade students still reported being approached at school last year by someone trying to sell or give them an illegal drug.

Young people have an obligation to be serious about school. But schools, helped by their surrounding communities, also have an obligation to create the conditions necessary for teaching and learning to take place. Only then can students be expected to take responsibility for learning.

GOAL 6

Safe, Disciplined, and Drug-free Schools

By the year 2000, every school in America will be free of drugs and violence and will offer a disciplined environment conducive to learning.

Objectives

- Every school will implement a firm and fair policy on use, possession, and distribution of drugs and alcohol.
- Parents, businesses, and community organizations will work together to ensure that schools are a safe haven for all children.
- Every school district will develop a comprehensive K-12 drug and alcohol prevention education program. Drug and alcohol curriculum should be taught as an integral part of health education. In addition, community-based teams should be organized to provide students and teachers with needed support.

GOAL 6

Safe, Disciplined, and Drug-free Schools

What we have learned since the 1992 Report

The 1993 Goals Report presents new information on indicators such as the sale of drugs at school, obtaining drugs at school, being under the influence of alcohol or other drugs while at school, witnessing other students under the influence of alcohol or other drugs while at school, carrying weapons to school, student membership in gangs, student safety, precautions to ensure safety, and disruptions in the classroom. In addition, updates are presented on at-school and overall drug use by 8th, 10th, and 12th graders, student victimization, skipping school and skipping classes, and student attitudes toward drug use.

Direct Measures of the Goal

Drug-free Students and Schools

At-School Use

In 1992, one in ten 8th graders, nearly one in five 10th graders, and nearly one in four 12th graders reported that they had been approached at school by someone trying to sell or give them drugs during the previous year. (See Exhibit 100.)

More than one-fourth of all students report that beer or wine, liquor, and marijuana are easy to obtain at school or on school grounds. (See Exhibit 101.)

The vast majority of students report never being under the influence of alcohol or other drugs while at school. However, about one-third of all students report that they have witnessed other students high on drugs or drunk at school. (See Exhibits 105 and 106.)

Overall Use

Although alcohol and other drugs are rarely used at school, overall use is much higher. In 1992, more than three-fourths of 12th graders used alcohol during the previous year, and almost one-fourth used marijuana, according to student reports. However, overall student use has continued to decline since the early 1980's. (See Exhibits 107 and 108.)

Schools Free of Violence and Crime

In 1992, 9% of 8th graders, 10% of 10th graders, and 6% of 12th graders reported that they had brought a weapon to school at least once during the previous month. The percentages of students, by grade, who habitually carried a weapon (10 or more days in the previous month) were 2%, 4%, and 3%, respectively. (See Exhibit 109.)

Substantial numbers of 8th, 10th and 12th graders continue to be victims of violent acts, theft, and vandalism at school, according to student reports. Black and Hispanic students are more likely than White students to be victims of violent acts at school involving weapons. Between 1990 and 1992, fewer 12th graders reported that their property had been stolen at school. (See Exhibits 110 and 111.)

Over one-third of all students report that other students at their school belong to fighting gangs. (See Exhibit 113.)

GOAL 6

Safe, Disciplined, and Drug-free Schools

While most students feel safe in or around their schools, substantial numbers report feeling unsafe some or most of the time. In 1992, 7% of 8th graders reported staying home from school at least once during the previous month because of concerns for their physical safety. (See Exhibit 114.)

Disciplined Environments Conducive to Learning

In 1992, the majority of students in Grades 8 and 10 reported that student disruptions were fairly common occurrences in their classes. About half of the students estimated that disruptions occurred only occasionally (five times a week or less), but 11-15% of the students reported that teachers interrupted class twenty times a week or more to deal with student misbehavior. About one in twenty 8th and 10th graders reported that other students interfered with their own learning at least twenty times a week. (See Exhibit 117.)

Skipping school and classes is a fairly common practice among 8th, 10th, and 12th graders, according to student reports. Between 1990 and 1992, the percentage of 12th graders who skipped class increased. Increases were most prevalent among Black students. (See Exhibit 118.)

Additional Important Information

Student Attitudes Toward Drug Use

In 1992, students in higher grades were less likely than younger students to report that they disapproved of adults drinking large quantities of alcohol or trying marijuana, and were more likely to engage in these behaviors themselves. However, between 1991 and 1992, the percentage of high school seniors who reported disapproving of adults having five or more drinks in a row once or twice each weekend increased. (See Exhibit 121.)

Student Safety

Sizable proportions of students and their parents report that they take one or more precautions to ensure students' personal safety at school or on the way to or from school. Staying in a group and staying away from certain places in school were the precautions most frequently cited by students; talking to students about ways to avoid trouble and setting limits on the amount of money taken to school were the precautions most frequently cited by parents. (See Exhibits 122 and 123.)

What we still need to know

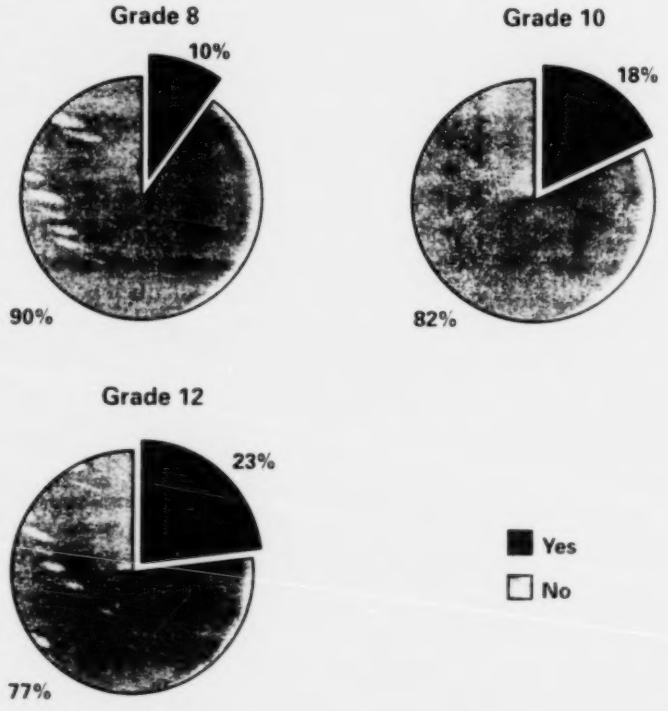
We still need a comprehensive definition of "disciplined environment conducive to learning" and a set of indicators to measure its presence or absence. The Panel has established a Task Force to develop the needed definition and the dimensions that characterize it. Based on the results of these efforts, new and improved indicators will appear in future Goals Reports.

In 1992, one in ten 8th graders, nearly one in five 10th graders, and nearly one in four 12th graders reported that they had been approached at school by someone trying to sell or give them drugs during the previous year.

Exhibit 100

Sale of Drugs at School

Percentage of students who reported that someone had offered to sell or give them an illegal drug at school[1] during the previous year, 1992

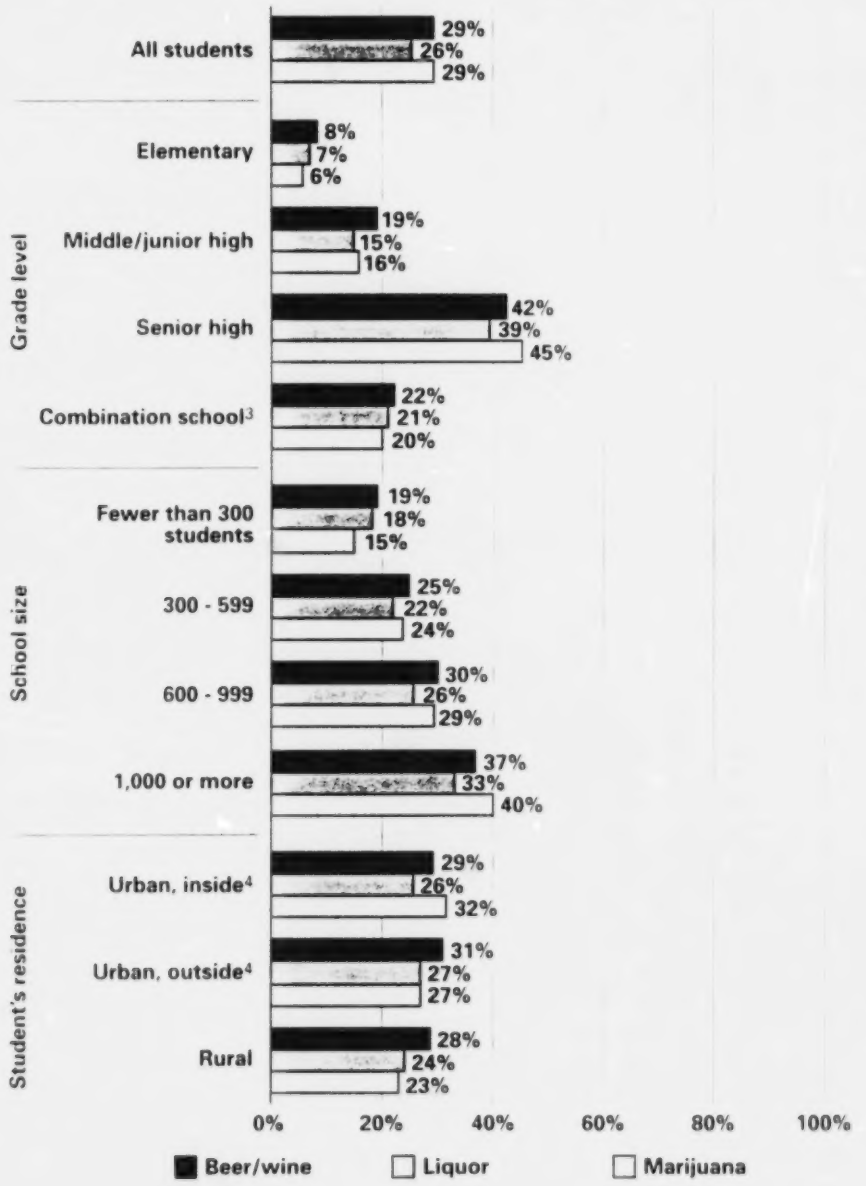


[1] Or someone had actually sold or given them an illegal drug at school

Source: University of Michigan, 1993

Exhibit 101
Obtaining Illegal Drugs at School

Percentage of students[1] who reported that it is easy[2] to obtain alcohol or marijuana at school or on school grounds, 1993



More than one-fourth of all students report that beer or wine, liquor, and marijuana are easy to obtain at school or on school grounds.

[1] Includes 6th through 12th graders.
[2] Responses of 'easy' and 'fairly easy' combined.
[3] Students were assigned to a school category on the basis of their grade level. School categories were as follows: Schools in which the lowest grade was 3 or less and the highest grade was 8 or less were classified as elementary. Schools in which the lowest grade was 4 through 9 and the highest grade was 4 through 9 were classified as middle/junior high. Schools in which the lowest grade was 7 through 12 and the highest grade was 10 through 12 were classified as senior high. Schools that did not meet these qualifications were classified as "combination schools."
[4] See Appendix A for a complete description.

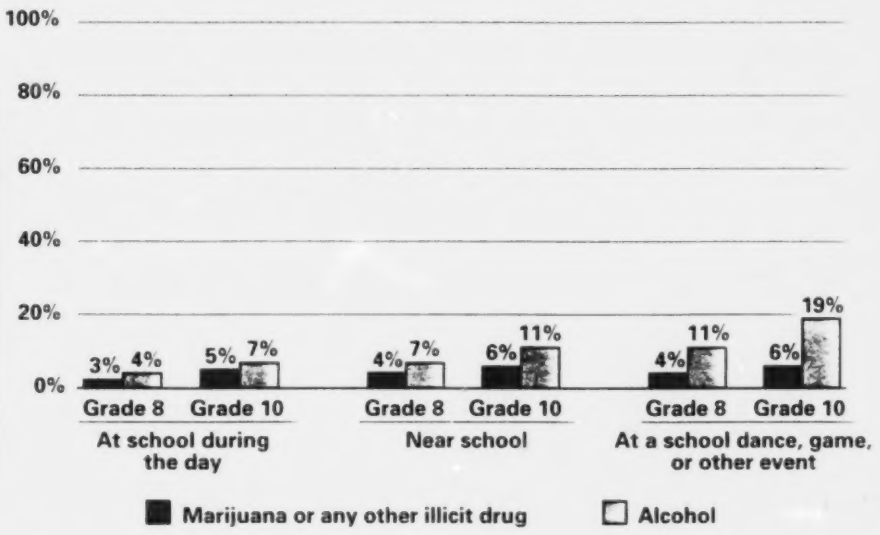
Source: National Center for Education Statistics and Westat, Inc., 1993
This exhibit replaces information presented in the 1992 Goals Report with new data from a different source.

Exhibit 102

Use of Drugs at School by 8th and 10th Graders

Percentage of 8th and 10th graders who reported that they used alcohol or other drugs at or near school during the previous year, 1992

Although alcohol, marijuana, and other drugs are rarely used by students at school during the day, higher levels of use occur near school and at school events, according to student reports. Use of alcohol and other drugs is more prevalent among older students, and alcohol is more commonly used than marijuana or other drugs.

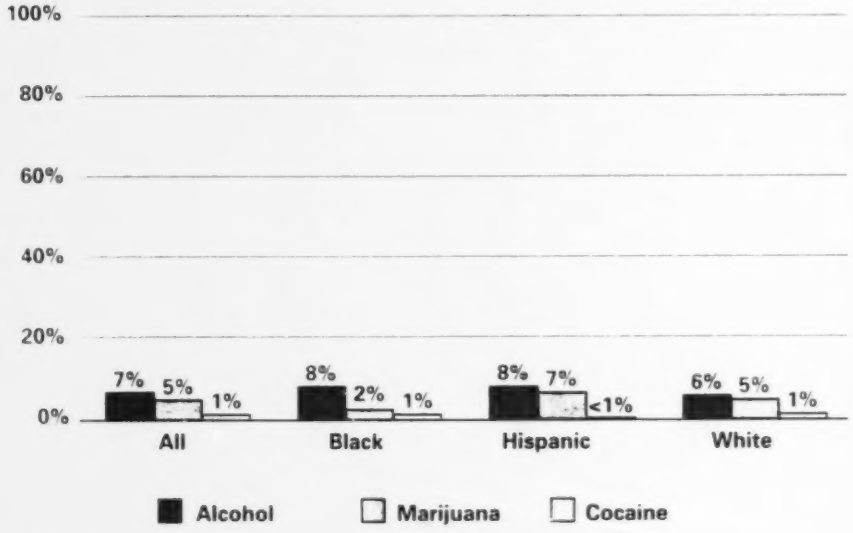


Source: University of Michigan, 1993
This exhibit updates information presented in the 1992 Goals Report

Exhibit 103

Use of Drugs at School by 12th Graders

Percentage[1] of 12th graders who reported that they used the following substances at school during the previous year, 1992



[1] Three-year averages (1990-1992) reported for racial/ethnic groups.

Use of alcohol and other drugs by 12th graders at school is not widespread. In 1992, 7% of 12th graders used alcohol at school during the previous year, 5% used marijuana, and 1% used cocaine, according to student reports.

Change Since 1990[1]

Percentage[2] of 12th graders who reported that they used the following substances at school during the previous year:

	Alcohol		Marijuana		Cocaine	
	1990	1992	1990	1992	1990	1992
All[3]	7%	7%	6%	5%	1%	1% *
Black	8%	8%	4%	2%	<1%	1%
Hispanic	8%	8%	6%	7%	1%	<1%
White[4]	8%	6% *	8%	5% *	1%	1% *

[1] Interpret with caution. Data are from a representative national survey. The changes shown could be attributable to sampling error. In cases noted with an asterisk, we are confident that change has occurred.
[2] Three-year averages (1988-1990, 1990-1992) reported for racial/ethnic groups.
[3] The non-rounded values for all 12th graders in 1990 and 1992 for cocaine were 1.4 and 0.6, respectively.
[4] The non-rounded values for White 12th graders in 1990 and 1992 for cocaine were 1.4 and 0.8, respectively.

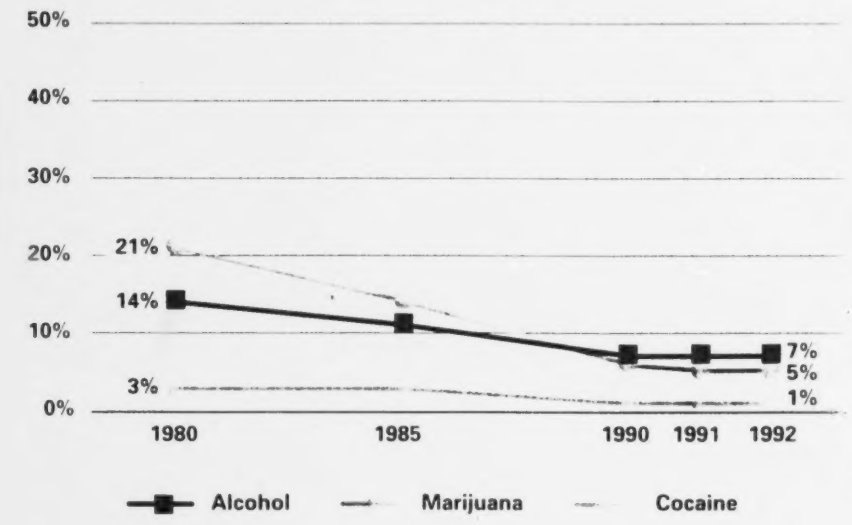
Source: University of Michigan, 1993
This exhibit updates information presented in the 1992 Goals Report.

Exhibit 104

Trends in At-School Drug Use

Percentage of 12th graders who reported that they used the following substances at school during the previous year, 1980 to 1992

Use of alcohol, marijuana, and cocaine at school has dropped sharply since 1980, according to reports from high school seniors.

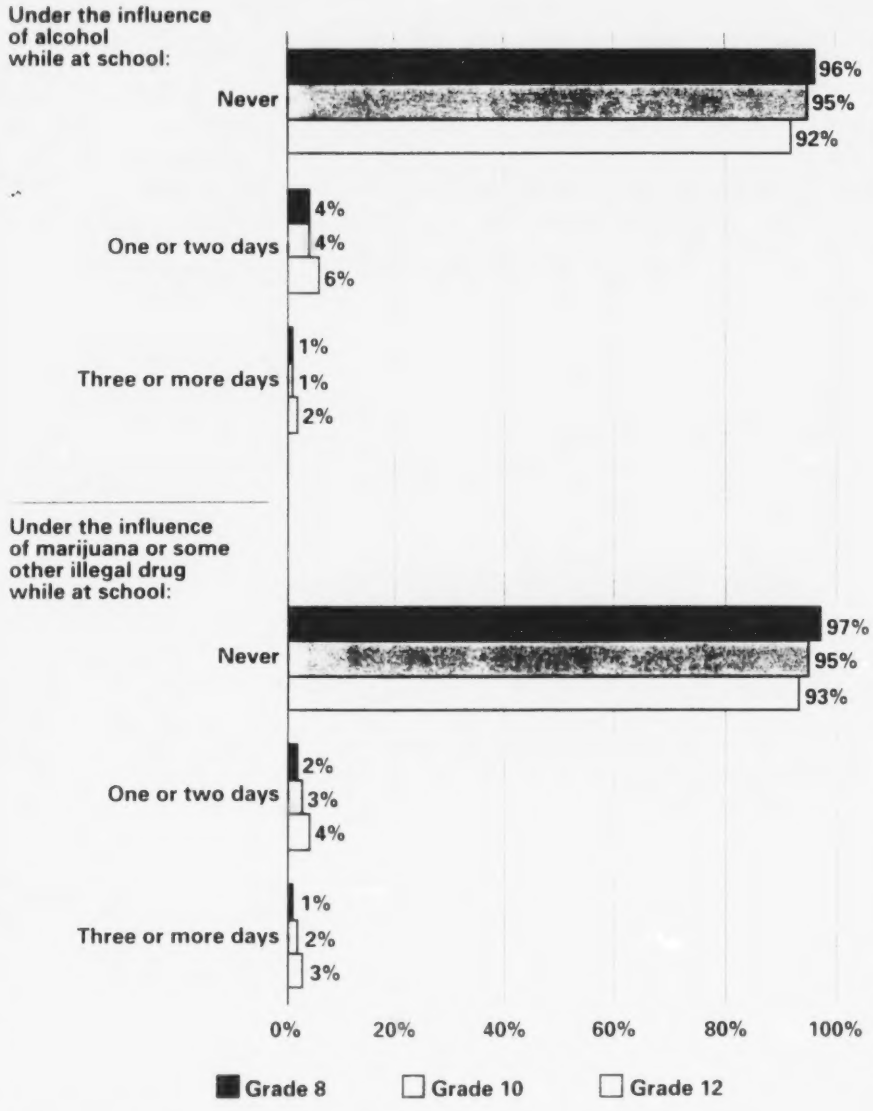


Source: University of Michigan, 1993
This exhibit updates information presented in the 1992 Goals Report

Exhibit 105

Being Under the Influence of Alcohol or Other Drugs While at School

Percentage[1] of students who reported being under the influence of alcohol or other drugs while at school during the previous four weeks, 1992



The vast majority of students report never being under the influence of alcohol or other drugs while at school.

[1] Percentages may not add up to 100% because of rounding

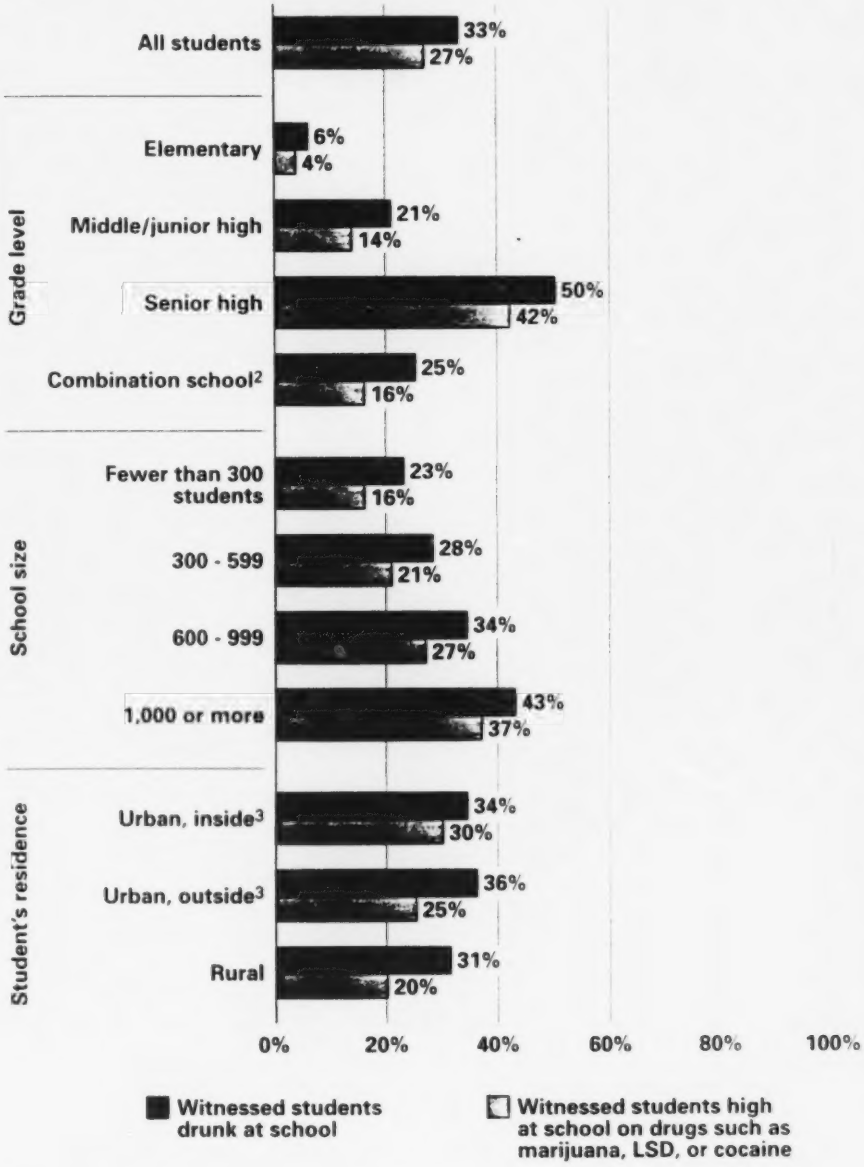
Source: University of Michigan, 1993

About one-third of all students report that they have witnessed other students high on drugs or drunk at school.

Exhibit 106

Witnessing Other Students Under the Influence of Alcohol or Other Drugs While at School

Percentage of students[1] who reported witnessing other students high on drugs or drunk at school, 1993



[1] Includes 6th through 12th graders.

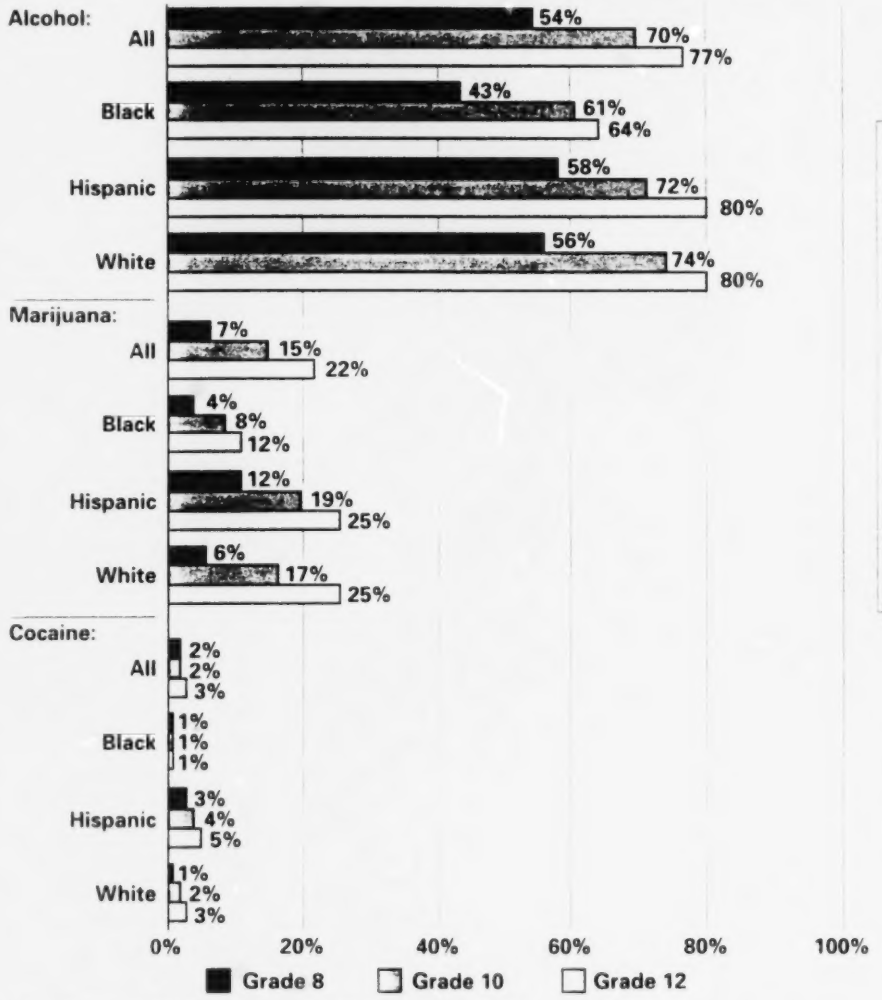
[2] Students were assigned to a school category on the basis of their grade level. School categories were as follows: Schools in which the lowest grade was 3 or less and the highest grade was 8 or less were classified as elementary. Schools in which the lowest grade was between 4 and 9 and the highest grade was between 4 and 9 were classified as middle/junior high. Schools in which the lowest grade was between 7 and 12 and the highest grade was between 10 and 12 were classified as senior high. Schools that did not meet these qualifications were classified as "combination schools."

[3] See Appendix A for a complete description.

Source: National Center for Education Statistics and Westat, Inc., 1993

Exhibit 107
Overall Student Drug Use

Percentage[1] of students who reported that they used the following substances during the previous year, 1992



[1] Two-year averages (1991-1992) reported for racial/ethnic groups.

Although alcohol and other drugs are rarely used at school, overall use is much higher. Alcohol is used by more than three-fourths of all 12th graders and is by far the most commonly used drug, according to student reports. Alcohol and marijuana use are more prevalent among older students, although cocaine use is relatively uncommon across age groups. Black students report the lowest rates of use at all grade levels.

Change Since 1990[1]

Percentage[2] of 12th graders who reported that they used the following substances during the previous year:

	Alcohol		Any illicit drug[3]		Marijuana		Cocaine	
	1990	1992	1990	1992	1990	1992	1990	1992
All	81%	77% *	33%	27% *	27%	22% *	5%	3% *
Black	64%	64%	17%	15% *	14%	12% *	2%	1%
Hispanic	74%	80% *	26%	30% *	22%	25%	7%	5% *
White	86%	80% *	38%	31% *	32%	25% *	6%	3% *

[1] Interpret with caution. Data are from a representative national survey. The changes shown could be attributable to sampling error. In cases noted with an asterisk, we are confident that change has occurred.
[2] Two-year averages (1989-1990, 1991-1992) reported for racial/ethnic groups.
[3] See Appendix A for complete description.

Between 1990 and 1992, the percentage of high school seniors who used alcohol, marijuana, cocaine, and other illicit drugs decreased, according to student reports.

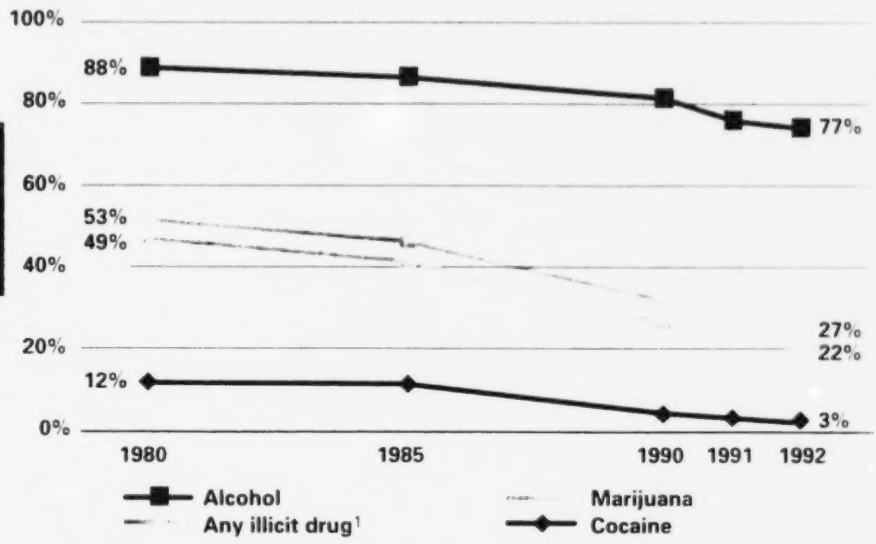
Source: University of Michigan, 1993
This exhibit modifies and updates information presented in the 1992 Goals Report.

Since 1980, overall use of alcohol and other drugs by high school seniors has declined noticeably, according to student reports.

Exhibit 108

Trends in Overall Student Drug Use

Percentage of 12th graders who reported that they used the following substances during the previous year, 1980 to 1992



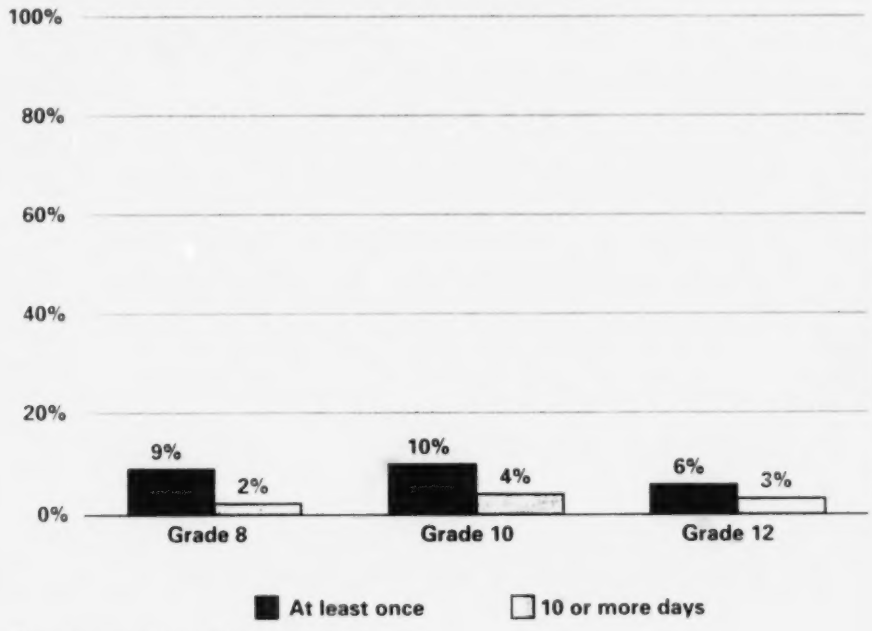
[1] See Appendix A for complete description.

Source: University of Michigan, 1993
This exhibit modifies and updates information presented in the 1992 Goals Report

Exhibit 109

Carrying Weapons to School

Percentage of students who reported carrying a weapon[1] to school during the previous four weeks, 1992



[1] Includes gun, knife, or club.

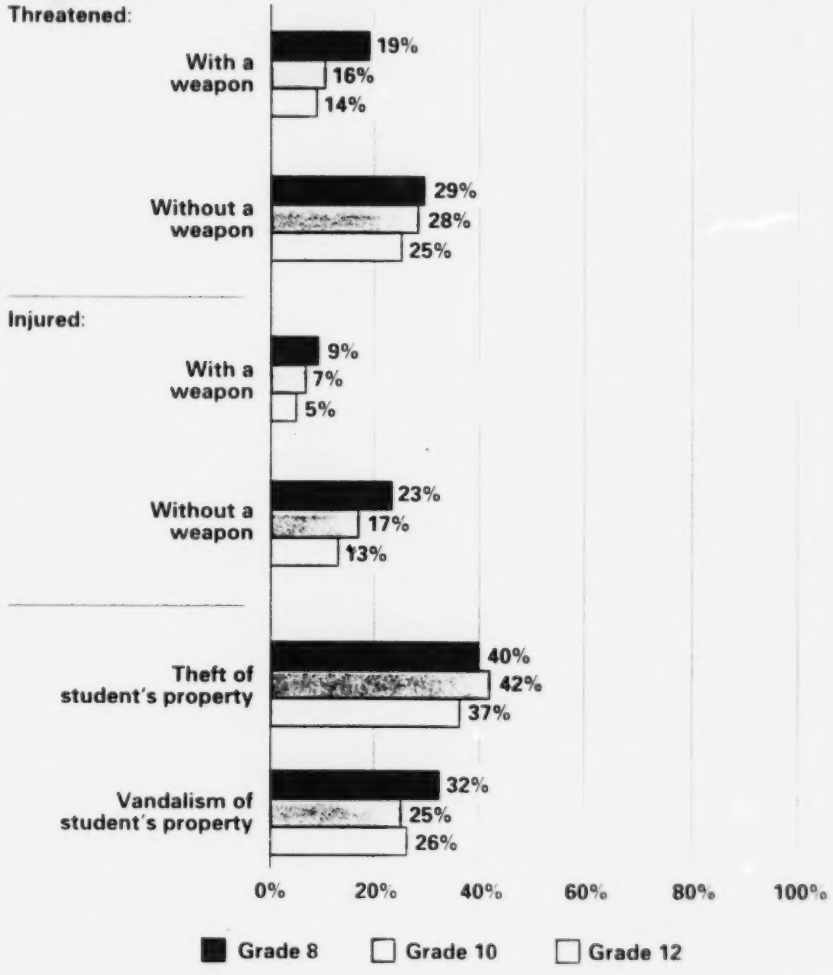
In 1992, 9% of 8th graders, 10% of 10th graders, and 6% of 12th graders reported that they had brought a weapon to school at least once during the previous month. The percentages of students, by grade, who habitually carried a weapon to school (10 or more days in the previous month) were 2%, 4%, and 3%, respectively.

Source: University of Michigan, 1993

Exhibit 110
Student Victimization

Percentage of students who reported that they were victimized in the following ways at school during the previous year, 1992

Substantial numbers of 8th, 10th, and 12th graders are victims of violent acts, theft, and vandalism at school, according to student reports. Threats and injuries are higher among younger students than among students in upper grades.



Between 1990 and 1992, fewer 12th graders reported that their property had been stolen at school.

Change Since 1990[1]

Percentage of 12th graders who reported that they were victimized in the following ways at school during the previous year:

	1990	1992
Threatened:		
With a weapon	13%	14%
Without a weapon	25%	25%
Injured:		
With a weapon	6%	5%
Without a weapon	14%	13%
Theft of student's property	42%	37% *
Vandalism of student's property	29%	26%

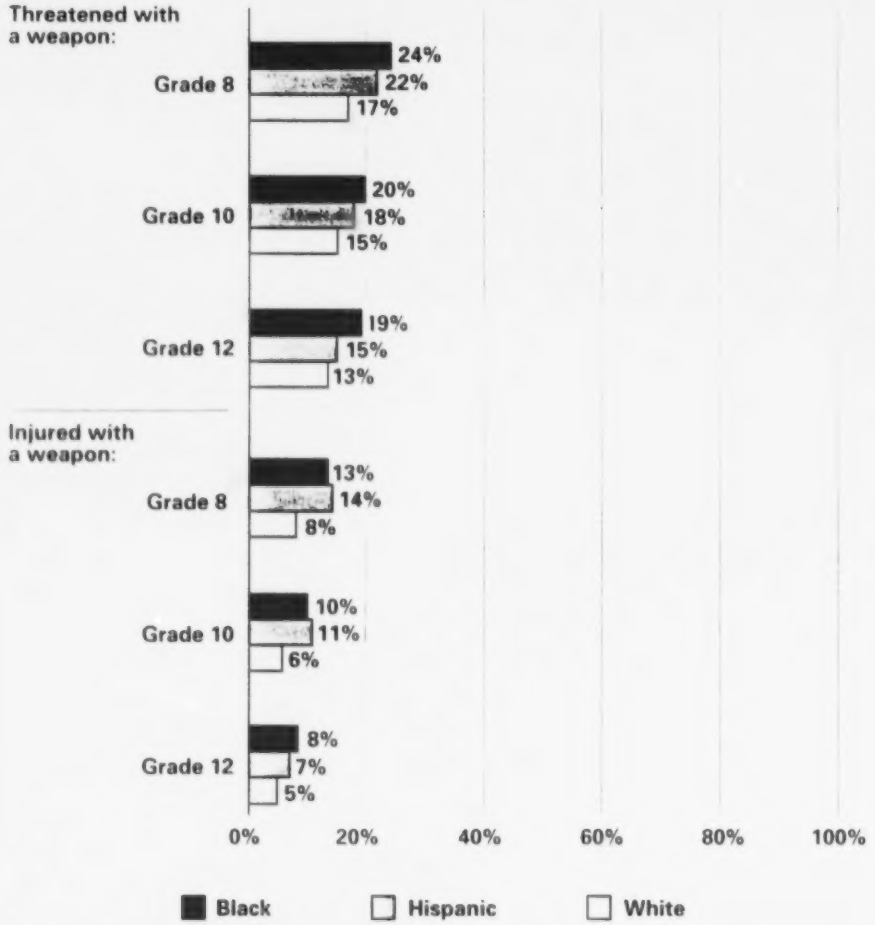
[1] Interpret with caution. Data are from a representative national survey. The changes shown could be attributable to sampling error. In cases noted with an asterisk, we are confident that change has occurred.

Source: University of Michigan, 1993
This exhibit updates information presented in the 1992 Goals Report

Exhibit 111

Threats and Injuries with Weapons

Percentage[1] of students who reported that they were victimized in the following ways at school during the previous year, 1992



Black and Hispanic students are more likely than White students to be victims of violent acts at school involving weapons, according to student reports.

[1] Two-year averages (1991-1992) reported for racial/ethnic groups for Grades 8 and 10. Three-year averages (1990-1992) reported for racial/ethnic groups for Grade 12.

Change Since 1990[1]

Percentage[2] of 12th graders who reported that they were victimized in the following ways at school during the previous year:

	Threatened with a weapon		Injured with a weapon	
	1990	1992	1990	1992
Black	21%	19%	10%	8%
Hispanic	14%	15%	6%	7%
White	12%	13%	4%	5%

[1] Interpret with caution. Data are from a representative national survey. The changes shown could be attributable to sampling error. In cases noted with an asterisk, we are confident that change has occurred.
[2] Three-year averages (1988-1990, 1990-1992) reported for racial/ethnic groups.

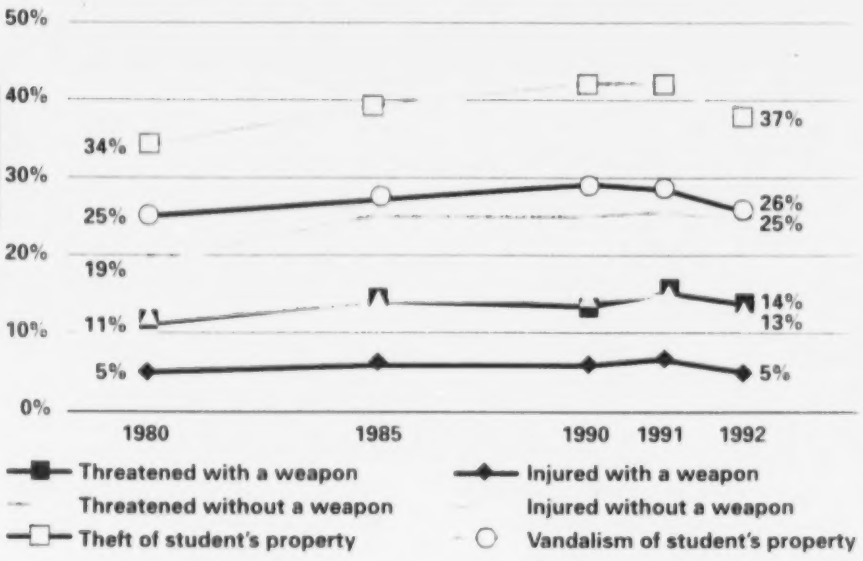
Source: University of Michigan, 1993
This exhibit updates information presented in the 1992 Goals Report

Exhibit 112

Student Victimization Trends

Percentage of 12th graders who reported that they were victimized in the following ways at school during the previous year, 1980 to 1992

Between 1980 and 1992, student reports of victimization at school have remained fairly steady.

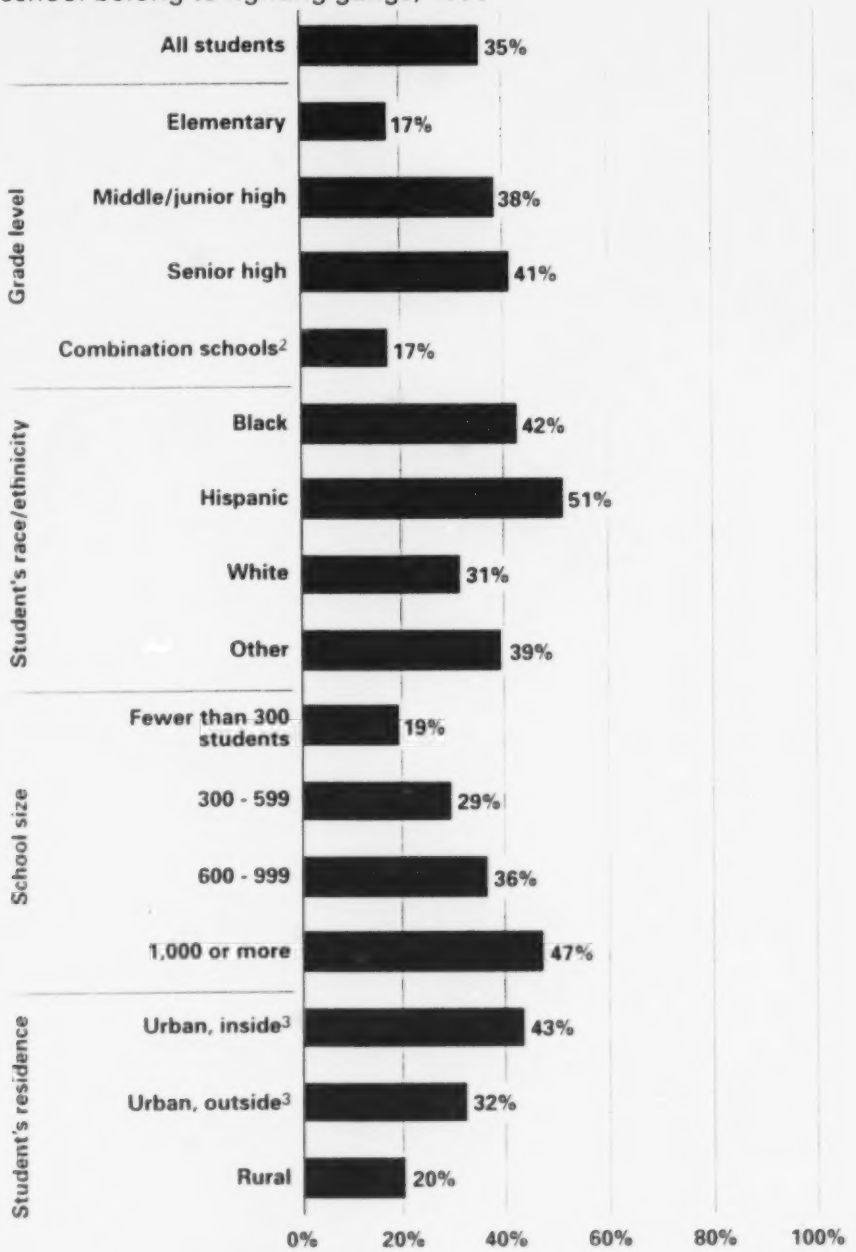


Source: University of Michigan, 1993
This exhibit updates information presented in the 1992 Goals Report.

Exhibit 113

Student Membership in Gangs

Percentage of students[1] who report that other students in their school belong to fighting gangs, 1993



Over one-third of all students report that other students at their school belong to fighting gangs.

[1] Includes 6th through 12th graders.

[2] Students were assigned to a school category on the basis of their grade level. School categories were as follows: Schools in which the lowest grade was 3 or less and the highest grade was 8 or less were classified as elementary. Schools in which the lowest grade was between 4 and 9 and the highest grade was between 4 and 9 were classified as middle/junior high. Schools in which the lowest grade was between 7 and 12 and the highest grade was between 10 and 12 were classified as senior high. Schools that did not meet these qualifications were classified as "combination schools."

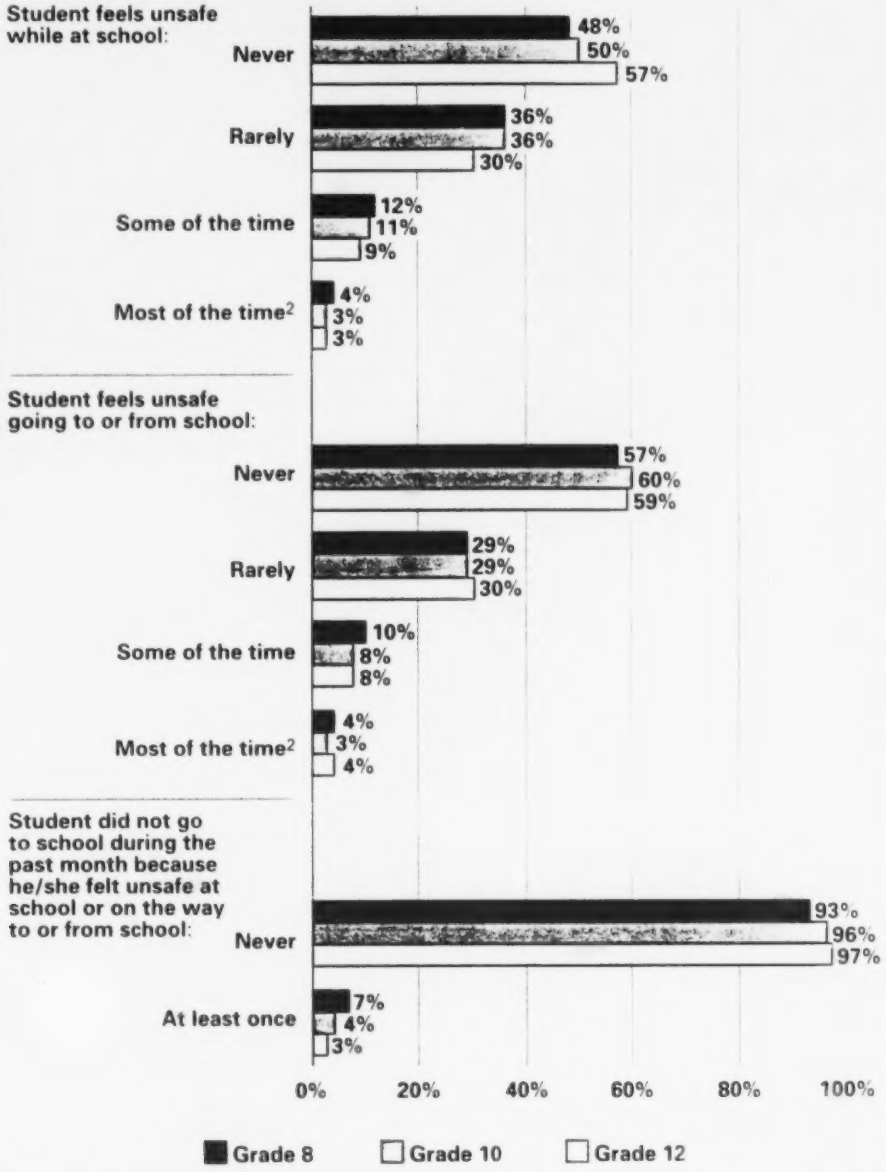
[3] See Appendix A for a complete description.

Source: National Center for Education Statistics and Westat, Inc., 1993

Exhibit 114
Student Safety

Percentage[1] of students who reported feeling unsafe at school or on the way to or from school, 1992

While most students feel safe in or around their schools, substantial numbers report feeling unsafe some or most of the time. In 1992, 7% of 8th graders reported staying home from school at least once during the previous month because of concerns for their physical safety.



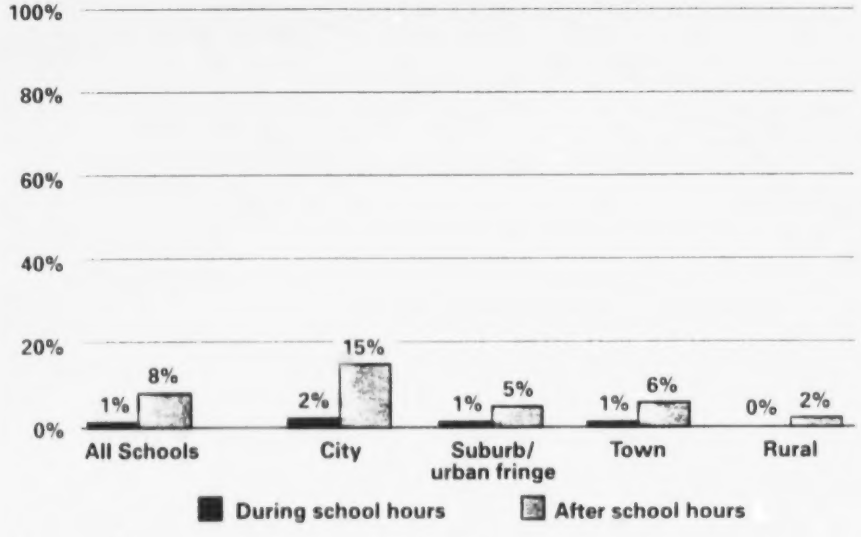
[1] Percentages may not add up to 100% because of rounding
[2] Responses of 'most days' and 'every day' combined

Source: University of Michigan, 1993

Exhibit 115

Teacher Safety

Percentage of public school teachers who reported that they felt unsafe[1] in their school buildings, 1991



[1] Responses of "unsafe" and "moderately unsafe" combined.

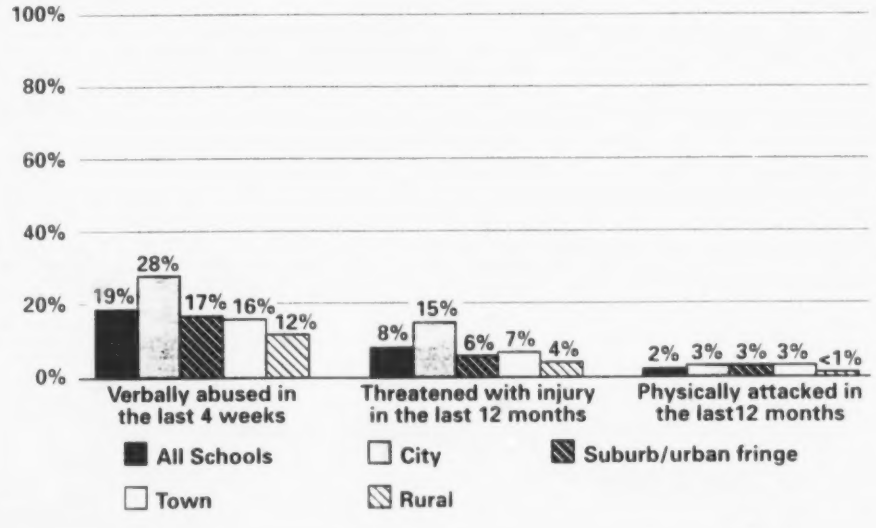
Most teachers feel safe in their schools during the day. Teachers in cities are more likely than teachers in other areas to feel unsafe in their buildings after school hours.

Source: National Center for Education Statistics, 1991
This exhibit repeats information presented in the 1992 Goals Report.

Exhibit 116

Teacher Victimization

Percentage of public school teachers who reported that they were victimized by a student from their school in the following ways, 1991



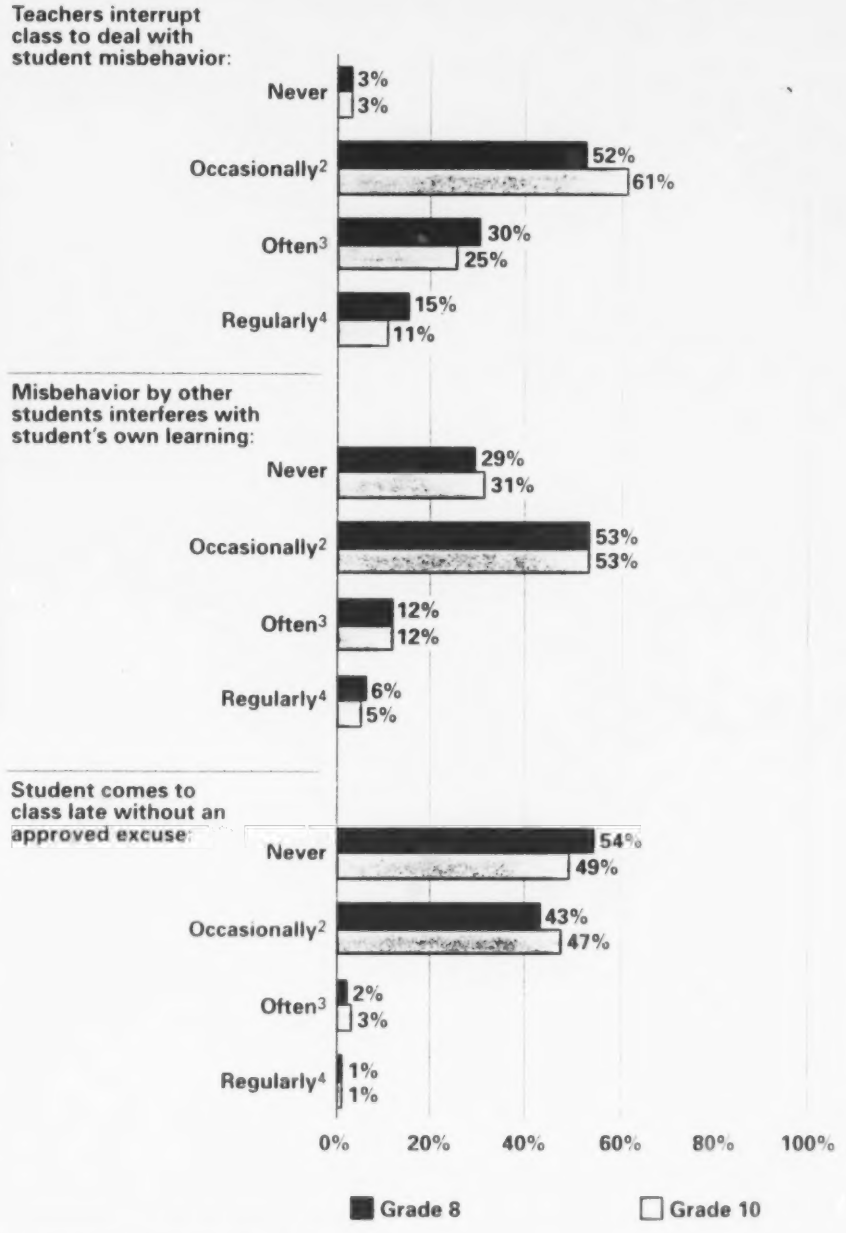
Teachers in cities are more likely than teachers in other areas to be victims of verbal abuse and threats, according to teacher reports.

Source: National Center for Education Statistics, 1991
This exhibit repeats information presented in the 1992 Goals Report.

Exhibit 117
Disruptions in Class by Students

Percentage[1] of students who reported that during an average week disruptions occurred in their classes, 1992

In 1992, the majority of students in Grades 8 and 10 reported that student disruptions were fairly common occurrences in their classes. About half of the students estimated that disruptions occurred only occasionally (five times a week or less), but 11-15% of the students reported that teachers interrupted class twenty times a week or more to deal with student misbehavior. About one in twenty 8th and 10th graders reported that other students interfered with their own learning at least twenty times a week.



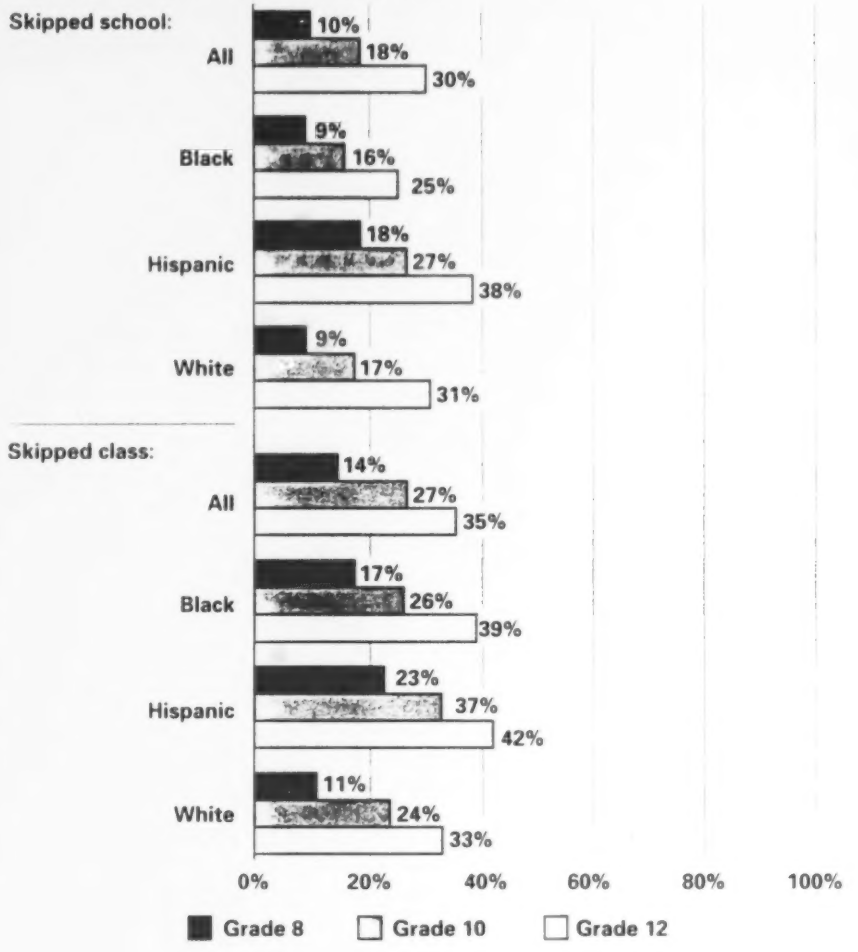
[1] Percentages may not add up to 100% because of rounding
[2] Occasionally = 5 times a week or less
[3] Often = 6-19 times a week
[4] Regularly = 20 times a week or more

Source: University of Michigan, 1993

Exhibit 118

Skipping School and Classes

Percentage[1] of students who reported that they did the following during the previous 30 days, 1992



[1] Two-year averages (1991-1992) reported for racial/ethnic groups.

Skipping school and classes is a fairly common practice among 8th, 10th, and 12th graders, especially among Hispanics and among students in higher grades.

Change Since 1990[1]

Percentage[2] of 12th graders who reported that they did the following during the previous 30 days:

	Skipped school		Skipped class	
	1990	1992	1990	1992
All	30%	30%	33%	35% *
Black	22%	25% *	31%	39% *
Hispanic	37%	38%	42%	42%
White	30%	31%	33%	33%

[1] Interpret with caution. Data are from a representative national survey. The changes shown could be attributable to sampling error. In cases noted with an asterisk, we are confident that change has occurred.
[2] Two-year averages (1989-1990, 1991-1992) reported for racial/ethnic groups.

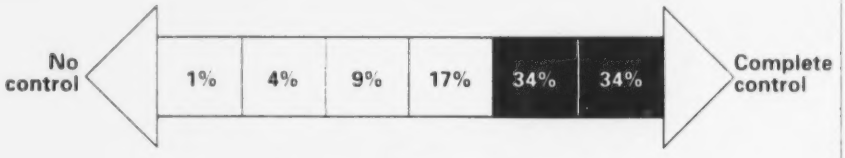
Between 1990 and 1992, the percentage of 12th graders who skipped class increased, according to student reports. Increases were most prevalent among Black students.

Source: University of Michigan, 1993
This exhibit updates information presented in the 1992 Goals Report.

Exhibit 119
Teacher Disciplinary Control Over Classrooms

Percentage of all high school teachers who indicated varying levels of disciplinary control over students in their classrooms, 1991

In 1991, nearly seven out of ten high school teachers felt that they had substantial or complete disciplinary control over students in their classrooms.



Between 1988 and 1991, the percentage of high school teachers who indicated that they had substantial or complete disciplinary control over students in their classrooms remained about the same.

Change Since 1988[1]

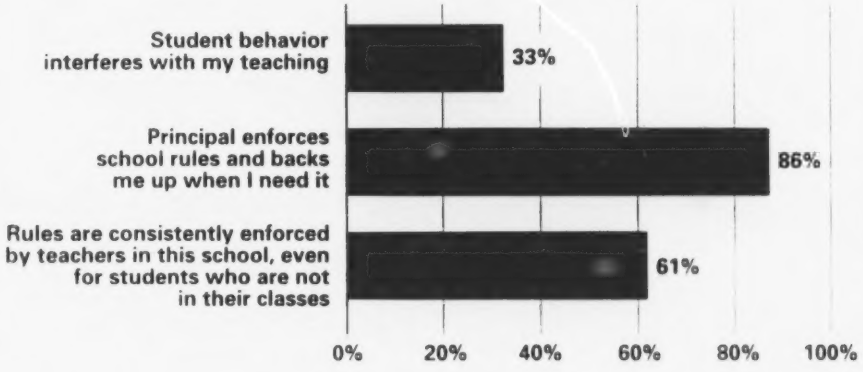
Percentage of all high school teachers who indicated substantial or complete disciplinary control over students in their classrooms:

	1988	1991
Substantial or complete control	67	68 *

[1] Interpret with caution. Data are from a representative national survey. The changes shown could be attributable to sampling error. In cases noted with an asterisk, we are confident that change has occurred.

Source: National Center for Education Statistics, 1992
This exhibit repeats information presented in the 1992 Goals Report

Exhibit 120
Teacher Beliefs About the School Environment
Percentage of all high school teachers who reported,[1] 1991



[1] Responses of "agree" and "strongly agree" combined.

In 1991, more than 30% of all high school teachers felt that student misbehavior interfered with their teaching. Nearly nine out of ten teachers felt that their principal consistently enforced school rules, but only six out of ten felt that other teachers did so.

Change Since 1988[1]

Percentage of all high school teachers who reported:[2]

	1988	1991
Student misbehavior interferes with my teaching	41	33 *
Principal enforces school rules and backs me up when I need it	82	86 *
Rules are consistently enforced by teachers in this school, even for students who are not in their classes	50	61 *

[1] Interpret with caution. Data are from a representative national survey. The changes shown could be attributable to sampling error. In cases noted with an asterisk, we are confident that change has occurred.
[2] Responses of "agree" and "strongly agree" combined.

Between 1988 and 1991, fewer high school teachers felt that student misbehavior interfered with their teaching, and more felt that principals and other teachers consistently enforced school rules.

Source: National Center for Education Statistics, 1992
This exhibit repeats information presented in the 1992 Goals Report.

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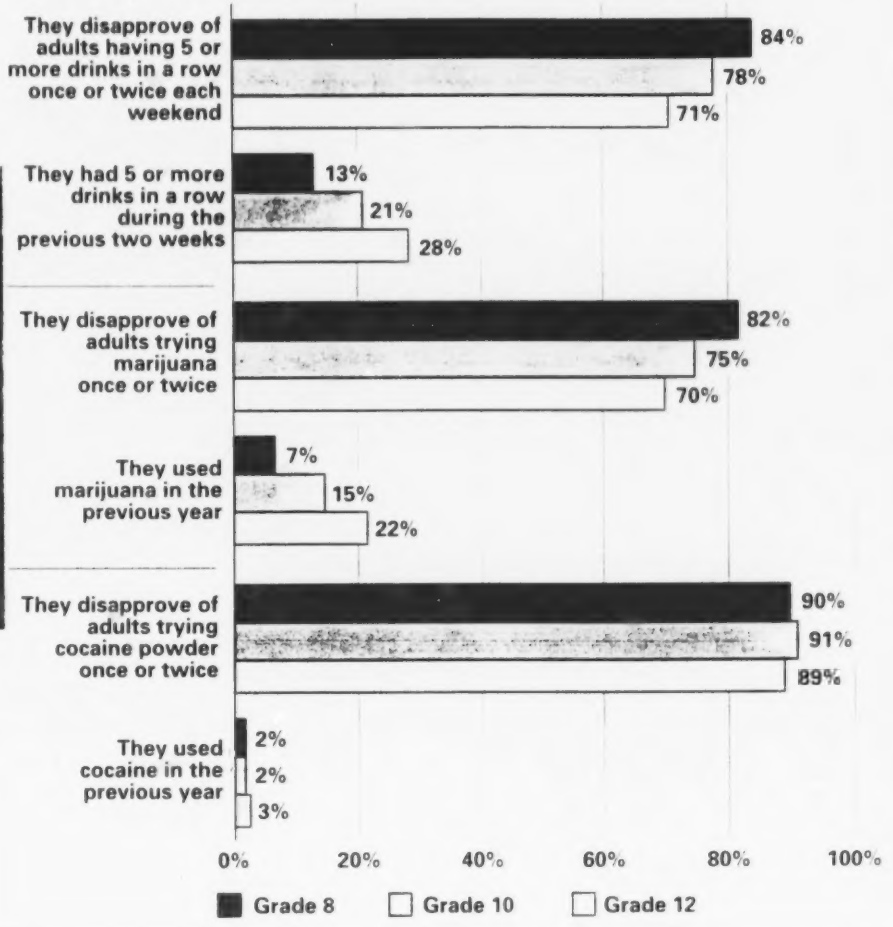
In 1992, students in progressively higher grades were less likely to report that they disapproved of adults drinking large quantities of alcohol or trying marijuana, and were more likely to report engaging in these behaviors themselves. In contrast, student disapproval of adults using cocaine was consistently high across grades, and the percentage of students using cocaine was consistently low.

Exhibit 121
Student Attitudes Toward Drug Use
Percentage of students who reported the following, 1992



Between 1991 and 1992, the percentage of high school seniors who reported disapproving of adults having five or more drinks in a row once or twice each weekend increased.

Change Since 1991[1]

Percentage of 12th graders who reported the following:

	1991	1992
They disapprove of adults having 5 or more drinks in a row once or twice each weekend	67%	71% *
They had 5 or more drinks in a row during the previous two weeks	30%	28%
They disapprove of adults trying marijuana once or twice	69%	70%
They used marijuana in the previous year	24%	22% *
They disapprove of adults trying cocaine powder once or twice	88%	89%
They used cocaine in the previous year	4%	3%

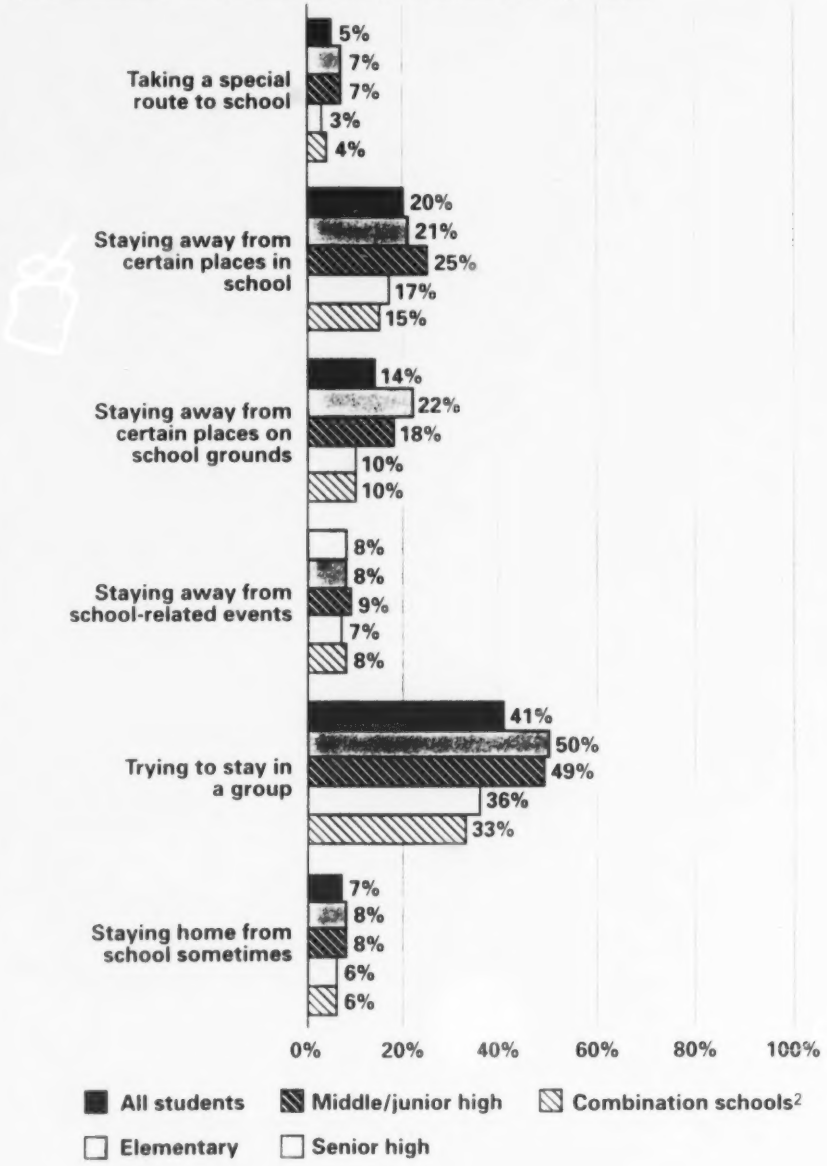
[1] Interpret with caution. Data are from a representative national survey. The changes shown could be attributable to sampling error. In cases noted with an asterisk, we are confident that change has occurred.

Source: University of Michigan, 1993
This exhibit updates information presented in the 1992 Goals Report.

Exhibit 122

Student Precautions to Ensure Personal Safety

Percentage of students[1] who reported taking the following precautions to ensure their personal safety, 1993



Sizable proportions of students report that they take one or more precautions to ensure their personal safety at school or on their way to or from school. Staying in a group and staying away from certain places in school were the precautions most frequently cited by students.

[1] Includes 6th through 12th graders.

[2] Students were assigned to a school category on the basis of their grade level. School categories were as follows: Schools in which the lowest grade was 3 or less and the highest grade was 8 or less were classified as elementary. Schools in which the lowest grade was between 4 and 9 and the highest grade was between 4 and 9 were classified as middle/junior high. Schools in which the lowest grade was between 7 and 12 and the highest grade was between 10 and 12 were classified as senior high. Schools that did not meet these qualifications were classified as "combination schools."

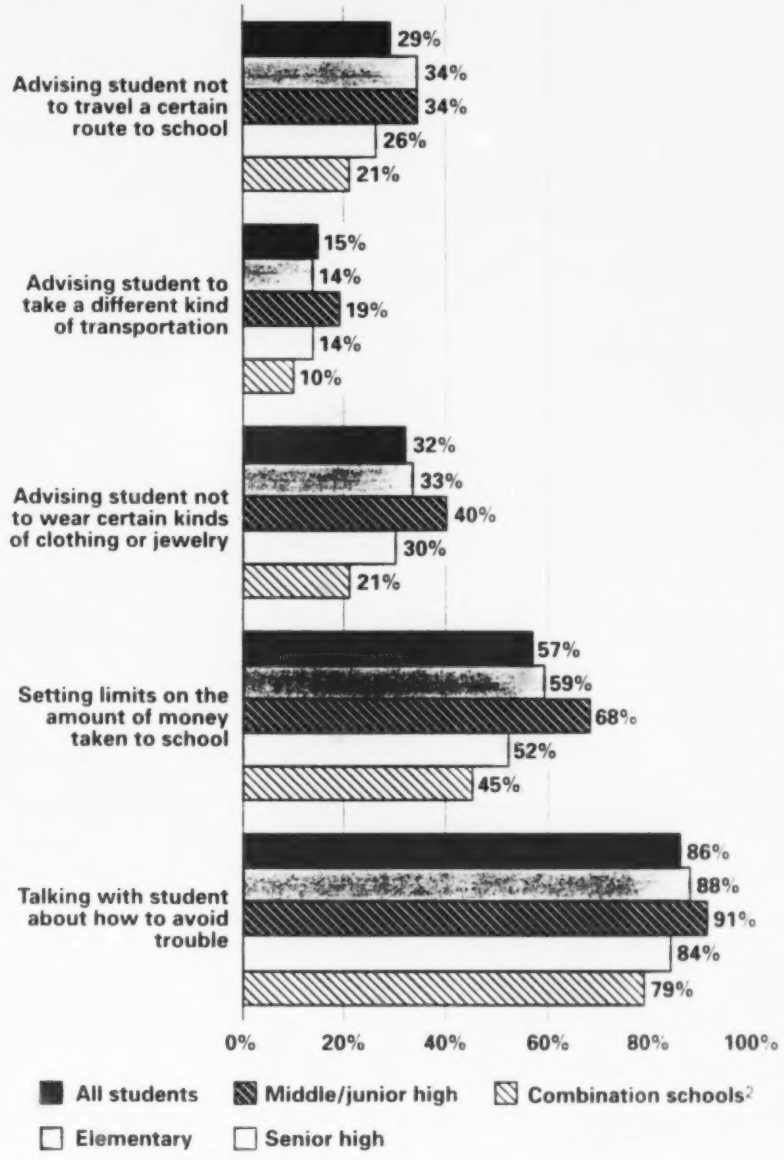
Source: National Center for Education Statistics and Westat, Inc., 1993

Nearly all students' parents report that they have taken one or more precautions to ensure their children's safety at school. Talking to students about ways to avoid trouble and setting limits on the amount of money taken to school were the precautions most frequently cited by parents.

Exhibit 123

Parent Precautions to Ensure Students' Safety

Percentage of students[1] whose parents reported taking the following precautions to ensure students' safety, 1993



[1] Includes 6th through 12th graders.

[2] Students were assigned to a school category on the basis of their grade level. School categories were as follows: Schools in which the lowest grade was 3 or less and the highest grade was 8 or less were classified as elementary. Schools in which the lowest grade was between 4 and 9 and the highest grade was between 4 and 9 were classified as middle/junior high. Schools in which the lowest grade was between 7 and 12 and the highest grade was between 10 and 12 were classified as senior high. Schools that did not meet these qualifications were classified as "combination schools."

Source: National Center for Education Statistics and Westat, Inc., 1993

CHAPTER 3

Developing Improved Measurement Systems and Strategies for Goal Attainment

1993

Developing Improved Measurement Systems and Strategies for Goal Attainment

From its inception, the National Education Goals Panel has been concerned about the existence of major gaps in information needed to monitor progress on the six National Education Goals. One of the Panel's major responsibilities, therefore, has been to propose improvements to national and international measurement systems so that progress in achieving the Goals could be more comprehensively and accurately portrayed. The purpose of these efforts is always to provide new information to improve educational results, as well as to gauge where our efforts are succeeding and where they are falling short.

To accomplish this, the Panel convenes expert advisory bodies (known as Resource Groups, Technical Planning Groups, and Task Forces) on an ongoing basis. These groups, working closely with designated Panel members and their staffs on long-term data improvement projects, make recommendations for new data collection and assessment strategies. The Panel then weighs the advice of its advisory bodies and, when appropriate, recommends new initiatives and reforms.[1]

For the first time, the Panel embarked this past year on long-term projects that move beyond measurement issues and directly into strategies for achieving the Goals. For example, a special task force was established to recommend how telecommunications network technologies should be deployed and used to help the nation achieve the Goals. Another task force was asked to outline the characteristics of a "disciplined environment conducive to learning." And papers were solicited that clarified the dimensions of readiness for school in order to improve the nature and quality of services to young children throughout the nation. Each of these initiatives will be continued over the next year, along with others which focus directly on strategies for Goal attainment.

The Panel currently has ongoing long-term initiatives in eight areas. What follows is a summary of the progress made in each of these over the preceding year.[2]

1. SCHOOL READINESS (Goal 1)

1992-93 LEAD PANELISTS:
Senator Bingaman, Representative Goodling, Governor Carlson, and Governor Nelson

MAJOR ACCOMPLISHMENTS: Draft paper elaborating the five dimensions of early childhood learning and development.

PRELIMINARY PLANS FOR 1993-94:
Disseminate final draft paper on the five dimensions of early childhood learning and development.

Efforts in this area emerged from the Panel's decision in 1992 to recommend the development of an Early Childhood Assessment System. Such a system would report regularly on the status of the nation's kindergarten students on five dimensions of early childhood learning and development: 1) cognition and general knowledge, 2) physical well-being and motor development, 3) social and emotional development, 4) approaches toward learning, and 5) language usage.

These five readiness dimensions have been central to the work of the Panel and its advisory bodies over the past year. A Technical Planning Group was established to develop a paper elaborating the meaning and usefulness of the five dimensions. This paper is now undergoing internal review and critique. The Panel plans to disseminate it widely in the year ahead for use as a local program improvement tool. Meanwhile, the National Center for Education Statistics (NCES) has incorporated the five readiness dimensions into a new national longitudinal study of early childhood learning and development.

The Goal 1 Resource Group has also worked with the Panel to outline a mechanism that would oversee developments in early childhood assessment. Panelists Goodling and Cochran are currently sponsoring legislation to create such a body.

[1] For a listing of the topics and composition of the Goals Panel's advisory bodies, see Acknowledgements, p. 237.
[2] In addition to the eight areas summarized in this chapter, the Panel also established an internal Working Group to assist in the development of the Federal Role chapter of the 1993 Goals Report. The Lead Panelists for that activity during 1992-93 were Governors Branstad, Engler, and Nelson, Senator Cochran, Secretary Riley, and Representative Kildee.

2. SCHOOL COMPLETION (Goal 2)

1992-93 LEAD PANELISTS: Governor Branstad and Governor Nelson

MAJOR ACCOMPLISHMENTS: Resolution on National Goals core data elements for administrative record systems.

PRELIMINARY PLANS FOR 1993-94: Work toward the implementation of the Panel's resolution on the development of a Voluntary State/Local Student Record System and core data elements to chart local progress in achieving the National Goals.

In 1992, the Goals Panel endorsed the development of a Voluntary State/Local Student Record System that would use standard definitions of key student characteristics, such as high school completer and dropout, and would be able to track students who transfer from one school system to another. In April 1993, the Goals Panel further defined the elements of such a system through a resolution recommending a set of uniform data elements to be used by states and local communities for monitoring progress on each of the National Goals.

The Panel recommends: 1) that administrative record systems in education move toward incorporating this recommended set of data elements for measuring progress toward the six National Education Goals; 2) that the definitions of these elements be consistent with those currently being established by the National Center for Education Statistics and the Council of Chief State School Officers; and 3) that the National Education Goals Panel review this minimum set of recommended data elements periodically, taking into account emerging information technologies and data needs.

Over the coming year, the Panel plans to work closely with NCES, state departments of education, and local school districts to help implement these recommendations.

3. CHALLENGING SUBJECT MATTER AND CITIZENSHIP (Goal 3)

1992-93 LEAD PANELISTS: Representative Kildee, Governor Bayh, Governor Campbell, and Governor Carlson

MAJOR ACCOMPLISHMENTS: Consensus recommendation on the use of NAEP in 1993; resolution on citizenship indicators incorporating the concept of "service learning."

PRELIMINARY PLANS FOR 1993-94: Review reports, as they appear, on the technical merits of NAGB's achievement levels.

Activities in this area centered on the use of achievement level data from the National Assessment of Educational Progress (NAEP) in the 1993 Goals Report and developing a Panel resolution on citizenship.

NAEP Reporting in 1993

The Panel convened a Technical Planning Group to recommend how to report new NAEP data in the 1993 Goals Report. A paramount question was whether to profile student achievement using the achievement levels developed by the National Assessment Governing Board (NAGB) and published by the National Center for Education Statistics. The General Accounting Office (GAO), in a recent publication, has questioned the validity of interpretations using such data.

After hearing presentations from both the GAO and NAGB and then engaging in extended discussions, the Technical Planning Group recommended the limited use of the achievement levels in the 1993 Goals Report. However, they also urged care in interpreting the scores and recommended that substantial illustrative materials be included in presentations of these data in order to heighten understanding of how students were actually performing. The Goals Panel subsequently endorsed these recommendations, and they are reflected in the achievement level profiles in this year's Report.

The Panel understands that ongoing external evaluations of the validity of the levels-setting process are still proceeding. The Panel will continue to monitor subsequent work in this area, and reserves the right to alter its reporting approaches based on new findings.

Citizenship

In 1993, the Panel endorsed a resolution on indicators of citizenship. Of particular note is the Panel's endorsement of the concept of "service learning," in which community service activities are integrated into a structured curriculum which includes discus-

sion, reflection, and writing related to, or arising from, the service activity. The resolution also contains recommendations for improved data collection and reporting in the areas of student knowledge of citizenship and voter participation.

4. ESTABLISHING A NATIONAL EDUCATION STANDARDS AND IMPROVEMENT COUNCIL (Goals 3 and 4)

1992-93 LEAD PANELISTS: Secretary Riley, Representative Goodling, Governor Campbell, and Governor Romer

MAJOR ACCOMPLISHMENTS: Draft Report on criteria and procedures for reviewing nationwide standards.

PRELIMINARY PLANS FOR 1993-94: Solicit public review and comment on the merits of proposed criteria and procedures for standards review; nominate members to a proposed National Education Standards and Improvement Council (NESIC) and work cooperatively with this new body in the nationwide standards review and certification process.

In 1992, the Panel endorsed the recommendation of the National Council on Education Standards and Testing to create a permanent Council whose functions would include coordinating the work of the diverse national standards-setting activities that are ongoing and that are expected in the future. In particular, this Council would establish, with the Goals Panel, criteria for judging the adequacy of such standards. These criteria would then be applied to specific standards brought before the Council for review and certification. The proposed Council, now known as the National Education Standards and Improvement Council (NESIC), is the subject of legislation as this Report goes to print.

This year, the Goals Panel established a new Technical Planning Group to recommend review criteria and processes for certifying national education standards and their implications for assessment. Among the specific topics explored by this group are benchmarking the standards to those of other nations, defining the consensus-building process needed for creating the standards, and the general processes and guidelines for judging the adequacy of the standards.

The draft Report of this Group has just been completed. Over the coming months, in preparation for the advent of the NESIC, the Panel will solicit broad public comment on the proposed criteria and procedures for standards review.

5. ADULT LITERACY/WORKFORCE SKILLS (Goal 5)

1992-93 LEAD PANELISTS: Senator Cochran, Presidential Assistant Rasco, Governor Engler, and Governor Romer

MAJOR ACCOMPLISHMENTS: Work plan for defining and setting standards of adult literacy.

PRELIMINARY PLANS FOR 1993-94: Work with the National Institute for Literacy to define and set standards on adult literacy.

The Goals Panel has worked closely with the National Institute for Literacy (NIFL) to launch a joint 2-year project designed to help achieve Goal 5 by defining and setting standards for what adults should know and be able to do.

The recently released National Adult Literacy Survey (NALS), whose key findings are published in this year's National Goals Report, provides a partial baseline measure for Goal 5. The joint Goals Panel/NIFL project will extend the work of NALS by defining and setting standards for Goal 5. The project will result in: 1) a set of papers from the perspective of adult learners that define what adults need to know in order to be literate and participate fully in civic and economic life; 2) a set of commissioned papers investigating the policy implications of NALS from the perspectives of various key constituencies; 3) a set of commissioned papers investigating what can be learned from other state and national standards-setting efforts in developing a comprehensive system of standards for adult literacy; and 4) an analytic study defining and proposing standards, policy directions, and priorities for achieving Goal 5 based on what we learn from NALS.

6. COLLEGIATE ASSESSMENT (Goal 5)

1992-93 LEAD PANELISTS: Governor Bayh and Governor Carlson

MAJOR ACCOMPLISHMENTS: Resolution endorsing a sample-based collegiate assessment system.

PRELIMINARY PLANS FOR 1993-94: Establish advisory groups on collegiate assessment and attainment to provide ongoing advice, guidance, and support on implementing the Panel's resolution.

During the spring of 1993, a series of national public hearings were held on recommendations made by a Panel Task Force to create a new national collegiate assessment system. A summary report on the feedback received was then presented to the Goals Panel.

The Panel, after weighing the public input, issued a set of recommendations for a uniform format for reporting college degree completion rates nationwide, as well as the development, through a broad-based consensus process, of a national sample-based system of post-secondary assessment driven by rigorous content and performance standards. Such a system should take into account differing institutional missions as well as students' different fields of study and occupational areas.

Over the next year, the Panel plans to establish new advisory groups to provide ongoing advice, guidance, and support to current efforts in the Department of Education and elsewhere which begin to implement the Panel's recommendations.

7. SAFE, DISCIPLINED, AND DRUG-FREE SCHOOLS (Goal 6)

1992-93 LEAD PANELISTS: Governor McKernan and Presidential Assistant Rasco

MAJOR ACCOMPLISHMENTS: Improved indicators in the 1993 Goals Report; establishing a Task Force on characteristics of a "disciplined environment conducive to learning."

PRELIMINARY PLANS FOR 1993-94: Receive and disseminate Task Force Report on characteristics of a "disciplined environment conducive to learning."

With the help of its expert advisors, this year's Report contains new indicators in this Goal area on such topics as weapons in school, being under the influence of drugs and alcohol while at school, and levels of class disruption. Future Goals Reports will continue to contain improved indicators as new data from the Centers for Disease Control, the University of Michigan, and the National Center for Education Statistics become available.

The Panel also established a new Task Force to advise it on the characteristics of a "disciplined environment conducive to learning." The group's forthcoming report on this topic is expected to guide the Panel in its recommendations for future indicator development work and strategies for reform.

8. ROLE OF TECHNOLOGY IN ACHIEVING THE NATIONAL EDUCATION GOALS

1992-93 LEAD PANELISTS: Senator Bingaman and Governor McKernan

MAJOR ACCOMPLISHMENTS: Draft Report on how education network technology can be used to help achieve the National Goals.

PRELIMINARY PLANS FOR 1993-94: Solicit reaction to the Network Technology Draft Report; work with other organizations at the national, state, and local levels to develop coordinated strategies for network technology development and use in support of the National Goals.

A new Task Force on Education Network Technology was established to report to the Panel on how network technology can be used to help achieve the National Education Goals. The Panel recently received the Draft Report of the Task Force, entitled *Achieving Educational Excellence by Increasing Access to Knowledge*. It specifies how teaching and learning to new world-class standards can be advanced through the appropriate deployment and use of telecommunications networking technologies. The Report also provides a blueprint for the high-priority investments, policies, and programs needed to implement this vision.

Over the coming year the Panel plans to sponsor workshops and seminars around the Technology Task Force blueprint. It will also work with other agencies and organizations at the national, state, and local levels to assist in the development of coordinated strategies for network technology development and use in support of the National Goals.

CHAPTER 4

The Federal Role in Meeting the National Education Goals

2000

1993

The Federal Role in Meeting the National Education Goals

Introduction

With the 1989 Education Summit at Charlottesville, Virginia, a coordinated and nationwide movement toward education reform began in earnest. The seeds of school reform were sown in the early part of that decade, slowly at first, as school reform rose to the top of the agenda in a number of states, and then gaining considerable momentum with the report from the National Commission on Excellence in Education warning that the nation was "at risk." What brought the Governors and the President to Charlottesville was the common concern that America's students routinely ranked below other industrialized countries in academic areas such as scientific knowledge, mathematics problem solving, and general literacy.

The Summit participants believed that if the United States was to remain a major player in the global economy, its citizens must master the skills needed to compete successfully. This historic meeting of America's Governors and the President reflected an emerging consensus that a quality education for all citizens is critical if America was to remain a land of opportunity. That consensus has proved to be the basis for a truly national movement for transforming American education. This continues in full swing despite changes in leadership in both the national Administration and the majority of state capitols since 1989. In the process, the federal government's role *within* that national movement has been more clearly defined and sharpened.

Encouraged by the National Education Goals process, three broad themes have characterized the overall nationwide approach to reform:

1. **Education reform must be *systemic*.** It must align standards and curriculum, teacher education and professional development, and assessments and educational governance structures to support high achievement for all students. Reforms at every level of development, from early childhood to adult education, must fit together like pieces of a puzzle to be effective. The educational development of America's people occurs in an interdependent system, comprised of a continuum of educational experiences. There is ample evidence, for example, that well-nourished, healthy children are more apt to learn and be ready for school. Moreover, early academic success is associated with later achievement in school, and achievement in school is associated with achievement in life. For education reform to be effective, therefore, the entire system must be impacted.

2. **The nation's commitment to education reform must be *long-term*.** We will not see dramatic improvement in student achievement overnight. It will take time to develop and implement world-class standards. Curricula must be modified or developed, materials must be created, teachers must be trained or retrained, and assessment systems that provide meaningful feedback must be put into place.

3. **To achieve the Goals, state, local, and federal governments must form an education *partnership*.** In order to enact education reform nationwide, all sectors must play their parts and act in concert. While the states and localities are primarily responsible for providing services that will help us meet the National Education Goals, the federal government must also play a critical role, including granting states, school districts, and schools increased flexibility and waivers of requirements that impede systemic reform.

The Emerging Federal Role

The basic elements of the Goals process (that reform must be systemic, long-term, and represent intergovernmental partnerships) have characterized new federal approaches to education reform. These approaches generally refine, rather than replace or fundamentally alter, the more traditional federal roles, which include: *stimulating action* by targeting funds to groups of children with various disabilities and/or educational disadvantages, providing financial incentives for educational improvement, and funding demonstration projects; helping to discover and *make knowledge and information available* through research, development, and dissemination; *providing services* such as technical assistance, summer institutes for teachers, and funds for equipment; *regulating* by establishing requirements and enforcing accountability requirements; *furnishing financial subsidies* to promote access and equal educational opportunity for

post-secondary students; *indirectly influencing* state and local programs in education by setting requirements for services in designated areas; and *giving direction* through the persuasion and vision of federal leaders.

In its emerging role, the federal government acts as a leader, partner, and catalyst for systemic reform by leveraging scarce resources toward state and local initiatives with broad impact and long-term benefit. Such initiatives cover a wide range but share some common characteristics: they relate directly to the Goals; they have the potential to change fundamentally our approach to education; and their effects will be realized in the long term.

Major initiatives that reflect the federal government's emerging role as a catalyst for systemic reform are:

Standards-Setting Initiatives

One of the central concepts undergirding the National Education Goals is that performance should be judged against challenging, world-class standards, rather than against a minimum criterion or a mathematically derived norm. This is a powerful and important idea with far-reaching implications, because standards will set targets for what all students should know and be able to do. Judging by a standard, thus, also implies that everyone, through targeted instruction and personal effort, is capable of reaching the standard. The potential impact of world-class standards on education, therefore, cannot be understated. They will change the way education is approached and organized, they will redefine our educational expectations, and they will benefit children now entering school when, as adults, they enter the workforce.

Since the Charlottesville Education Summit, significant steps have been taken by the federal government to support the development of nationwide, voluntary world-class standards in academic subject areas and workforce skills. The U.S. Department of Education, both solely and in partnership with other federal agencies and private organizations, has taken the lead in supporting the development of academic standards by independent professional groups. Standards-setting activities are under way in the areas of science, history, government and civics, geography, English/language arts, foreign languages, and the arts for the elementary and secondary school years. These efforts are patterned after the widely recognized standards developed by the National Council of Teachers of Mathematics (NCTM). In the area of workforce skills, the Departments of Labor and Education are supporting the development of voluntary national occupational skills standards by various industry groups.

Moreover, pending legislation continues in the direction of supporting the development of voluntary standards. The proposed GOALS 2000: EDUCATE AMERICA Act should encourage the voluntary development and adoption of internationally competitive standards for what students should know and be able to do in major subject areas and in broad occupational areas. Students, teachers, parents, communities, and states may use these standards to judge their own performance.

Technology Initiatives

Technology enables educators, students, and the public to share and access information and other resources to help students achieve challenging standards. Appropriately used, technology is a powerful tool for engaging teachers and students in learning to high standards. By providing system support for standards-based education reform, technology can accelerate the speed of such reform.

One characteristic of technology is its capacity for widespread application across the Goals. That is one reason why its potential for systemic reform is so great. The federal government supports a number of technology-based education initiatives that enhance the Goals and promote systemic reform. A prime example is the Federal Star Schools Program, which provides access to telecommunications systems for hundreds of thousands of Grade K-12 children nationwide in urban, rural, and suburban locations. The program's technology is used to improve instruction in mathematics, science, foreign languages, and other subjects such as vocational education. Consequently, this single program promotes both Goals 3 and 4, and, to the extent that it helps keep students in school, Goal 2. Additionally, federal initiatives like the Star Schools Program provide states and communities access to technology for applications other than traditional elementary and secondary subjects. Mississippi, for example, uses the satellite downlinks installed by the K-12 Federal Star Schools Program for its Project LEAP (Learn, Earn, and Prosper), a satellite-based adult education and training program. Project LEAP provides after-school-hours distance-learning courses in reading, GED preparation, workplace readiness, and life-coping skills and, thus, promotes Goal 5.

There are also several proposed pieces of federal legislation that focus on the need for a coordinated federal effort in education technology. These proposed bills, although taking differing approaches,

point to the need for establishing a comprehensive system through which to provide schools appropriate technology-enhanced instructional and administrative support as well as services that support the National Education Goals and any nationwide education standards that may be developed.

Grants to States for Systemic Reform

The proposed GOALS 2000: EDUCATE AMERICA Act is designed to reform our schools by establishing challenging voluntary academic and occupational standards and providing support to states and communities to help students reach those standards. GOALS 2000 sets into law the six National Education Goals established in 1990. It encourages states and local communities to improve teacher training and to expand the use of challenging curricula, instruction, technologies, and assessments geared to world-class academic standards. A key provision of the proposed legislation would authorize the Secretary to waive statutory or regulatory requirements that impede reform efforts for state and local districts implementing systemic reform plans.

The Statewide Systemic Initiative (SSI) Program, funded through the National Science Foundation, is a major effort to encourage improvements in science, mathematics, and engineering and technology education through comprehensive systemic changes in the education systems of the states. States are in the position to coordinate resources from a variety of public and private sources, can do so fairly and equitably, and can change regulations. Through the SSI program, states are encouraged to identify (1) the elements that, taken together, can make a difference in what students know and are able to do, and (2) how the states will bring together and manage: a commitment from the Governor and other leaders; the state's vision of what mathematics and science education should be; and the creation of partnerships with educators at all levels that will enable the initiative to succeed.

The proposed School-to-Work Opportunities Act, to be administered jointly by the Departments of Education and Labor, is designed to encourage partnerships of employers, educators, and others to build quality systems for helping students make the transition from school to a good first job in a high-skill, high-wage career. Combining learning at the work site with learning in school, the school-to-work partnerships will prepare students for either jobs requiring technical skills or further education and training. The proposed School-to-Work Act will promote coordination among state, local, and federal resources and will allow programs the flexibility to address local needs and respond to changes in the local economy and labor market. Multiple sources of support — federal grants to states, waivers, direct grants to local partnerships, and high-poverty area grants — will allow all states to build School-to-Work systems within the first few years of legislative enactment.

Assistance to Disadvantaged Groups

The Elementary and Secondary Education Act (ESEA) provides about $9.5 billion in federal funds for numerous elementary and secondary education programs. The bulk of these funds support the Chapter 1 program, which provides supplemental education services for low-achieving students in high-poverty schools. This year the ESEA will be reauthorized, and its framers have solicited recommendations from a number of individuals and entities. Recurring suggestions from various sources have focused on bringing the programs under ESEA more in line with the systemic reform movement reflected in the National Goals; providing more flexibility in how states and localities use the federal resources provided under the Act; and improving the quality of services offered to children.

The Federal Financial Role

Introduction

The National Education Goals Panel has made a commitment to track federal financial contributions for activities consistent with the six National Education Goals. The federal government funds a variety of programs and activities related to the National Education Goals. These programs and activities provide financial support for access, equity, and excellence in education, as well as research, development, and dissemination activities.

This section identifies and describes federal financial contributions for Goal-related activities and lists their budget authority (or, where noted, obligations or expenditures). Figures for 1989, the year of the Charlottesville Summit, are used as baseline data. Included also are 1992 figures, updated since the last Goals Report to reflect close-of-fiscal-year information. Figures for 1993 represent the estimated federal contribution for the current fiscal year. All data are provided in 1993 constant dollars so that meaningful comparisons may be made across years. When available or appropriate, participation data are also included. (For information on calculating constant dollars, or the origin and limitations of the federal financial data included in this chapter, see technical notes in Appendix A.)

Exhibit 124
Federal Resources[1] for Programs to Improve the Education/Provide Services to the Before School Years, School Years, and Post-High School Years

Program Type	1993 Constant $ in Millions			1989-1993 Change in 1993 Constant Dollars	
	FY 1989	FY 1992	FY 1993	$ in Millions	%
Before School Years	10,703	18,484	20,996	10,293	96%
School Years	18,118	21,385	21,207	3,089	17%
Post-High School Years[2]	21,541	23,772	25,198	3,657	17%
Other[3]	1,223	1,389	1,406	183	15%
Total	**51,585**	**65,030**	**68,807**	**17,222**	**33%**
Post-High School Years: Military and Related Personnel	13,645	12,321	11,886	–1,759	–13%
TOTAL[4,5]	**65,230**	**77,351**	**80,693**	**15,463**	**24%**

[1] Figures rounded to nearest $1 million.
[2] Does not include programs for education and training of military and related personnel.
[3] A residual category that captures those programs/activities which do not fit into one of the three age categories but provides general support related to the National Education Goals.
[4] Includes programs for education and training for military and related personnel.
[5] Numbers might not equal the totals due to rounding.

The Federal Financial Contribution Across the Goals

In fiscal year 1993, the federal government provided close to $81 billion for Goal-related activities, up about $3.3 billion in 1993 constant dollars from 1992, and about $15.5 billion since base-year 1989. These estimated totals include the cost of programs for the training and education of military and related personnel. They do not, however, include tax expenditures, nor do they include non-federal funds, such as loan capital, generated by federal loan guarantee programs.

Exhibit 124 lists the federal resources for Goal-related activities across four broad categories: the Before School Years (includes kindergarten), School Years (Grades 1 through 12), Post-High School Years, and Post-High School Years: Military and Related Personnel, for fiscal years 1989, 1992, and 1993. Also included in the exhibit is a residual "Other" category that cuts across categories and captures programs/ activities that provide general support related to the Goals. These data represent hundreds of programs administered by 26 federal departments or agencies (see Exhibit 125).

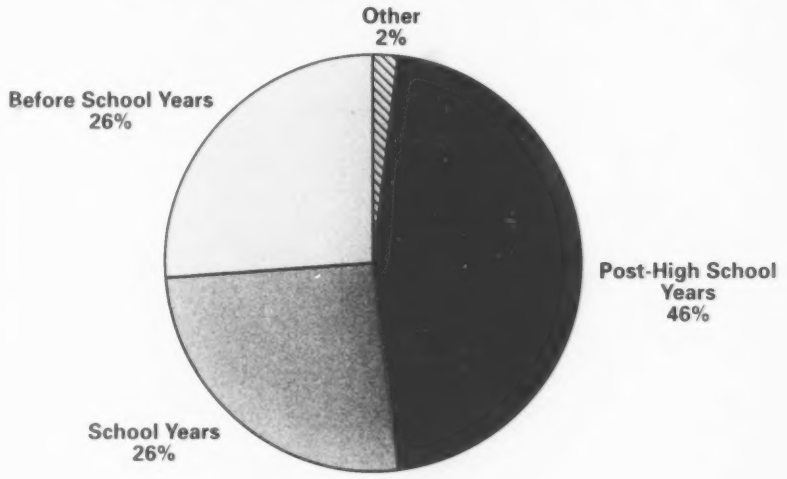
As the data show, the federal government puts most of its Goal-related resources in the Post-High School Years categories. However, programs for the Before School Years clearly have grown the most since 1989, both in terms of constant dollars and percentage growth. Exhibit 126 illustrates the proportion of estimated funds expended by category in fiscal year 1993.

Exhibit 125
Federal Resources[1] by Department/Agency[2] for Programs to Improve Education/Provide Services to the Before School Years, School Years, and Post-High School Years

Department/ Agency[3]	1993 Constant $ in Millions			1989 - 1993 Change in 1993 Constant Dollars	
	FY 1989	FY 1992	FY 1993	$ in Millions	%
Education	25,915	29,946	30,843	4,928	19%
HHS	9,189	16,246	18,421	9,232	100%
Defense	14,821	13,680	13,239	–1,582	–11%
Agriculture	8,500	9,765	10,234	1,734	20%
Labor	4,353	4,712	4,756	403	9%
Veterans	1,031	982	1,147	116	11%
NSF	260	490	532	272	105%
Interior	315	375	380	65	21%
CPB	264	337	319	55	21%
Transportation	184	189	186	2	1%
NEH	158	162	159	1	1%
Energy	0	111	108	N/A	N/A
NASA	44	82	81	37	84%
State	28	59	61	33	118%
ACTION	61	62	60	–1	–2%
Justice	28	40	59	31	111%
Smithsonian	31	35	33	2	6%
IMS	24	26	27	3	13%
Housing	5	13	13	8	160%
NEA	9	13	11	2	22%
EPA	1	12	10	9	900%
Commerce	4	4	6	2	50%
HST	3	3	3	0	0%
BGSF	1	3	3	2	200%
OPM	0	2	2	N/A	N/A
JMFF	0	1	1	N/A	N/A
TOTAL[4]	**65,230**	**77,351**	**80,693**	**15,463**	**24%**

[1] Figures rounded to nearest $1 million.
[2] Departments/Agencies contributing less than $500,000 in FY 1993 not included.
[3] Complete Department/Agency titles are in Appendix C.
[4] Numbers might not equal the totals due to rounding.

Exhibit 126
Allocation of 1993 Resources for Programs to Improve the Education/Provide Services During the Before School Years, School Years, and Post-High School Years



Of $81 billion, the largest proportion of federal funding for Goal-related activities goes to the Post-High School Years.*

* Includes funds for the education and training of military and related personnel.

The Before School Years

At Charlottesville, the Governors and the President reiterated the federal government's role in promoting "national equity by helping poor children get off to a good start." We know that early childhood experiences such as participation in preschool programs, access to adequate health care, good nutrition, and parental involvement in learning can be important factors in ensuring that all children enter school ready to learn. The federal government's 1993 contribution to activities related to the Goals in the years before a child enters the first grade is estimated at $21 billion. This represents constant dollar increases of $2.5 billion since 1992 and over $10 billion since 1989.

Most funds spent by the federal government for these Before School Years focus on preparing young children and their parents for the children's *Education*, improving young children's *Health*, and providing for additional *Nutrition* if needed. The bulk of these funds (98%) come from 15 large programs funded through a number of agencies (see Exhibits 127 and 128). Most of these programs are aimed specifically at the disadvantaged. Exhibit 129 illustrates the proportion of federal dollars devoted to each of these three general types of services/activities for FY 1993.

Exhibit 127
Major Federal Programs[1] to Improve Education/Provide Services to the Before School Years

Program	1993 Constant $ in Millions			1989 - 1993 Change in 1993 Constant Dollars		Service Levels
	FY 1989	FY 1992	FY 1993	$ in Millions	%	
Medicaid for Children (HHS)	3,236	6,894	7,476	4,564	141%	4.8 million young children received Medicaid cards (1990)
WIC (Agriculture)[2]	2,114	2,675	2,860	746	35%	2.3 million pregnant women & infants & 2.2 million children (1991)
Head Start (HHS)	1,427	2,266	2,779	1,352	95%	721,000 children (1993)
CACFP (Agriculture)[2]	782	1,223	1,331	549	70%	1.3 million children (1991)
Foster Care (HHS)	509	746	967	458	90%	50,000 average monthly case load (1991)
Chapter 1 (Education)	565	760	752	187	33%	486,365 children (1991)
Family Support Payments for Child Care (HHS)[2]	20	818	746	726	3,697%[3]	N/A
Special Education (Education)	520	700	730	210	40%	368,689 in preschool grant programs (1991)
MCH Block Grant (HHS)	640	669	670	30	5%	N/A
Payments to States for day care (HHS)[3]	0	488	1,038	N/A	N/A	N/A
Childhood Immunizations (HHS)	164	307	350	186	113%	2,050,000 children aged 2 months through kindergarten (1993)
EPSDT (HHS)	103	259	324	221	215%	8,200 children (1993)
Community & Migrant Health Centers (HHS)	184	193	199	15	8%	400 clinics in 40 states & Puerto Rico (1990)
Child care (DOD)	103	197	200	97	94%	Total program capacity of 166,622 children (1993)
Indian Health Service (HHS)	129	177	155	56	43%	160,000 children, 0-5 years old (1993)
Other[4]	205	112	419	214	104%	N/A
TOTAL[5]	**10,703**	**18,484**	**20,996**	**10,293**	**96%**	**N/A**

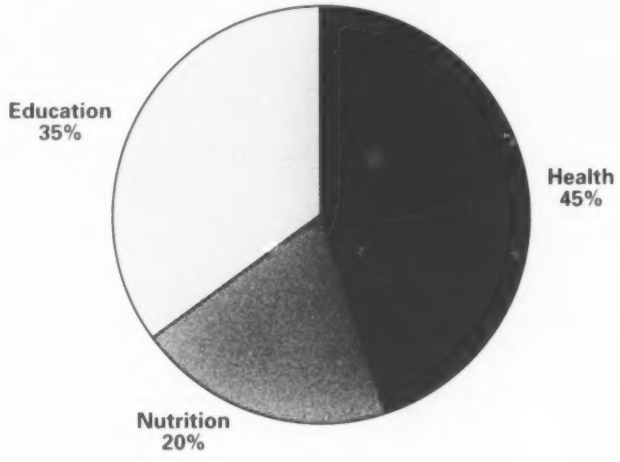
[1] Program descriptions are in Appendix B.
[2] Obligations.
[3] This program did not begin until 1989. The large increments in funding are a function of dramatic increases in the number of participating states as the program becomes fuly operational.
[4] Other federal programs that improve education/provide services to preschool-aged children funded for less than $100 million in FY 1993.
[5] Numbers might not equal the totals due to rounding.

Exhibit 128
Federal Resources[1] by Department/Agency[2] for Programs to Improve Education/Provide Services to the Before School Years

Department/ Agency[3]	1993 Constant $ in Millions			1989 - 1993 Change in 1993 Constant Dollars	
	FY 1989	FY 1992	FY 1993	$ in Millions	%
HHS	6,473	12,749	14,943	8,470	131%
Agriculture	2,965	3,961	4,252	1,287	43%
Education	1,106	1,484	1,505	399	36%
Defense	132	254	258	126	96%
ACTION	28	28	26	–2	–6%
Housing	0	5	5	N/A	N/A
Interior	0	3	6	N/A	N/A
Justice	1	1	1	<1	<1%
TOTAL[4]	**10,703**	**18,484**	**20,996**	**10,293**	**96%**

[1] Figures rounded to nearest $1 million.
[2] Departments/Agencies contributing less than $500,000 in FY 1993 not included.
[3] Complete Department/Agency titles are in Appendix C.
[4] Numbers might not equal the totals due to rounding.

Exhibit 129
Allocation of 1993 Resources from 15 Largest Federal Before School Years Programs



Of $21 billion, the largest proportion of federal funding for Before School Years activities is spent on health-related activities.

The School Years

Most federal funds for Goal-related School Years (Grades 1 through 12) activities target those students in need of assistance because of economic disadvantage or risk of academic failure. Funds also are used to help states in their efforts to improve academic achievement and school completion. Additionally, the federal government provides financial assistance to state and local governments in areas critically important to our country's future, such as improving mathematics and science education and promoting drug-free schools. The federal contribution to Goal-related activities in the School Years in 1993 was approximately $21 billion. This represents about a $178 million decrease in constant dollars since 1992, but over a $3 billion increase since 1989.

Eighteen federal programs, out of over 170 identified by 15 federal agencies, account for nearly 94% of the estimated 1993 federal dollars for Goal-related School Years activities. (These figures include U.S. Department of Agriculture nutrition programs as well as U.S. Department of Defense supported schools — classroom instruction. See Exhibits 130 and 131.) Most federal programs for the School Years either support services to *At-Risk Populations*, *General School Improvement and Education*, or *Teacher Training and Enhancement*. Exhibit 132 illustrates the proportion of federal dollars devoted to each of these general categories for the 18 largest programs funded in 1993.

Exhibit 130
Major Federal Programs[1] to Improve Education/Provide Services to the School Years (Grades 1-12)

Program	1993 Constant $ in Millions			1989 - 1993 Change in 1993 Constant Dollars		Service Levels
	FY 1989	FY 1992	FY 1993	$ in Millions	%	
Chapter 1 (Education)	4,659	6,194	5,991	133	29%	5,061,345 students in Grades 1-12 (1991)
School Meals Program (Agriculture)[2]	4,812	5032	5,194	382	8%	24.4 million lunches & 4.4 million breakfasts daily; 2 million summer meals; 152 million ½ pints of milk (1991)
Special Education Basic State Grants (Education)	1,579	1,868	1,887	308	20%	4,716,905 children served (1992)
Classroom Instruction (Defense)	977	987	933	-44	-4%	148,159 students (1993)
Impact Aid Grants (Education)	818	765	738	–80	–10%	N/A
Drug-Free Schools (Education)	373	606	562	189	51%	96% of nation's LEAs receive program funds (1991)
Vocational Education Basic State Grants (Education)	581	595	588	7	1%	N/A
JTPA Summer Jobs (Labor)	819	1204[3]	1,025	206	25%	692,000 summer participants (1993)
Chapter 2 (Education)	535	463	436	–99	–19%	95.2% of nation's schools received program funds (1993)
Job Corps (Labor)	521	575	587	66	13%	42,1000 18-year-olds and younger participated (1993)

Exhibit 130 (continued)
Major Federal Programs[1] to Improve Education/Provide Services to the School Years (Grades 1-12)

Program	1993 Constant $ in Millions			1989 - 1993 Change in 1993 Constant Dollars		Service Levels
	FY 1989	FY 1992	FY 1993	$ in Millions	%	
JTPA II-A/C[4] (Labor)	331	365	677	346	105%	264,000 participants (1993)
Eisenhower Math/ Science (Education)	158	276	276	118	74%	583,000 math/science teachers received training (1991)
CN Commodities (Agriculture)[2]	212	209	225	13	6%	N/A
BIA Indian Schools (Interior)	187	208	215	28	15%	45,885 students (1993)
Vocational Rehabilitation State Grants (Education)	134	147	150	16	11%	72,516 under 18 (1991)
Bilingual Education (Education)	116	137	136	20	18%	338,443 students (1992)
Magnet Schools (Education)	132	113	108	-24	-18%	55 school districts in 20 states funded (1993)
Teacher Enhancement (NSF)	52	107	101	49	94%	N/A
Other[5]	1,122	1,714	1,378	257	23%	N/A
TOTAL[6]	**18,118**	**21,385**	**21,207**	**3,089**	**17%**	**N/A**

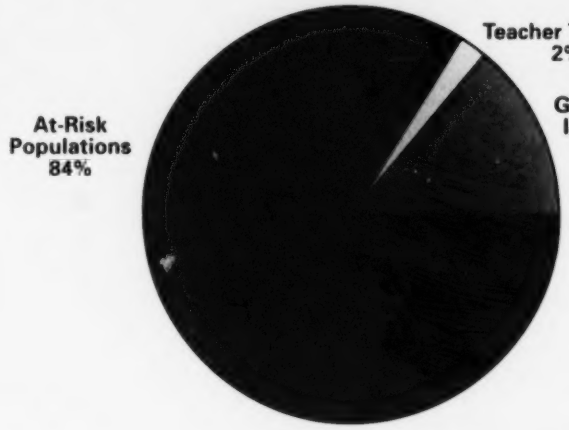
[1] Figures rounded to nearest $1 million.
[2] Obligations.
[3] Includes $500 million FY 1992 supplemental appropriation.
[4] JTPA amendments created a separate youth program (JTPA II-C) beginning 7/1/93.
[5] Other federal programs that improve education/provide services to school-aged children but funded for less than $100 million in FY 1993.
[6] Numbers might not equal the totals due to rounding.

Exhibit 131
Federal Resources[1] by Department/Agency[2] for Programs to Improve Education/Provide Services to the School Years (Grades 1-12)

Department/ Agency[3]	1993 Constant $ in Millions			1989 - 1993 Change in 1993 Constant Dollars	
	FY 1989	FY 1992	FY 1993	$ in Millions	%
Education	9,684	12,116	11,618	1,934	20%
Agriculture	5,094	5,311	5,486	167	3%
Labor	1,671	1,964	2,122	1,502	90%
Defense	1,156	1,209	1,192	36	3%
NSF	148	308	310	162	110%
Interior	192	238	243	51	27%
HHS	119	140	135	16	13%
Energy	0	25	29	N/A	N/A
ACTION	22	20	19	–3	–13%
NEH	14	17	17	11	160%
NASA	7	21	18	3	23%
NEA	6	5	5	–1	–13%
EPA	0	6	5	N/A	N/A
Smithsonian	3	3	3	<1	–13%
State	3	3	3	<1	–13%
TOTAL[4]	**18,118**	**21,385**	**21,207**	**3,089**	**17%**

[1] Figures rounded to nearest $1 million.
[2] Departments/Agencies contributing less than $500,000 in FY 1993 not included.
[3] Complete Department/Agency titles are in Appendix C.
[4] Numbers might not equal the totals due to rounding.

Exhibit 132
Allocation of 1993 Resources from 18 Largest Federal School Years (Grades 1-12) Programs



Of the $21.2 billion, the largest proportion of federal funding for School Years (Grades 1-12) activities is spent on at-risk populations.

The Post-High School Years

Goal 5 of the National Education Goals focuses on increasing the rate of adult literacy, improving the preparation of the nation's workforce, and increasing access to quality post-secondary education. To reach this Goal, the proportion of those qualified students (especially minorities) who enter college, who complete at least two years, and who complete their degree programs must increase substantially. Moreover, the pursuit of post-high school training and skills acquisition must expand beyond formal post-secondary training. Further, an effective school-to-work transition system, which equips youngsters with high skills, must be created for those students not planning to attend college immediately after high school.

The federal contribution to Goals-related activities in the Post-High School Years was approximately $37 billion for 1993, which is an increase of about $1 billion in constant dollars since 1992, and almost $2 billion since 1989. A large part of the total, almost $12 billion, is spent on the education and training of federal personnel, over 95% of which is used for the education and training of defense personnel.

Excluding funds for the education and training of military and related federal personnel, Exhibit 133 illustrates the federal contribution for the 23 largest Post-High School Years Goal-related activities. These 23 activities are a small part of the total number of federally funded Goal-related Post-High School activities funded through numerous federal agencies (see Exhibit 134), yet comprise over 90% of the federal contribution (excluding funds for the education and training of military and related federal personnel). Most of these programs and activities may be classified by broad function: *Student Financial Assistance* for post-secondary education or vocational training; support for *Graduate School Training* (scholarships and fellowships); financial assistance to *Institutions of Higher Education* for improving services to students; support for faculty *Research and Teaching*; and *Service to Adults* for training, basic education, and rehabilitation services (see Exhibit 135).

Exhibit 133
Major Federal Programs[1] to Improve Education/Provide Services to the Post-High School Years[2]

Program	1993 Constant $ in Millions			1989 - 1993 Change in 1993 Constant Dollars		Service Levels
	FY 1989	FY 1992	FY 1993	$ in Millions	%	
Pell Grants (Education)	5,183	5,662	6,001	818	16%	3,786,230 grants (1992)
Guaranteed Student Loans (Education)	4,701	4,914	5,981	1,280	27%	4,556,088 loans (1992)
Vocational Rehabilitation State Grants (Education)	1,542	1,693	1,729	187	12%	946,500 18-years-old and up served (1992)
Medicare Payments to Hospitals (HHS)	1,664	1,574	1,580	–84	–5%	1,192 teaching hospitals supported in part (1990)
JPTA Title II-A (Labor)	1,736	1,460	1,015	–721	–42%	242,100 post-high school people (1993)
AFDC Jobs (HHS)[3]	0	699	737	N/A	N/A	550,000 average monthly number of participants (1993)
G.I. Bill (Veterans)[3]	763	667	816	53	7%	363,300 trainees (includes reservists) (1993)
Work Study Grants (Education)	705	633	617	–88	–12%	Provided assistance to 697,304 (1992)
JPTA Title III (Labor)	328	594	597	269	82%	262,400 total participants (1993)
Supplemental Educational Opportunity Grants (Education)	506	594	585	79	16%	881,344 student grants (1992)
JOB Corps (Labor)	336	370	379	43	13%	27,150 19-year-olds and older completed program (1993)
Higher Education Special Programs for Disadvantaged Youth (Education)	261	396	388	127	49%	Over 646,476 participants (1993)
Vocational Education Basic State Grants (Education)	387	390	392	5	1%	7,979,000 students (1991)

Exhibit 133 (continued)
Major Federal Programs[1] to Improve Education/Provide Services to the Post-High School Years[2]

Program	1993 Constant $ in Millions			1989 - 1993 Change in 1993 Constant Dollars		Service Levels
	FY 1989	FY 1992	FY 1993	$ in Millions	%	
NIH Research Training (HHS)	296	356	346	50	17%	14,025 individuals supported (1993)
HSRA Health Professions Grant (HHS)	231	295	269	38	16%	N/A
Adult Education State Grants (Education)	157	243	255	98	62%	3,887,000 received services (1992)
Howard University (Education)	207	218	194	–13	–6%	N/A
Higher Education Aid for Institutional Development (Education)	202	213	203	1	<1%	397 institutional awards (1993)
Vocational Rehabilitation (Veterans)[3]	138	190	211	73	53%	40,700 trainees received assistance (1993)
JTPA (American Indians, migrants, etc.) (Labor)	168	162	157	–11	–6%	N/A
Food Stamp Employment & Training (Agriculture)[3]	146	163	163	17	12%	1,589,971 individuals served (1991)
Perkins Loans (Education)	238	161	169	–69	–29%	654,2140 student loans (1992)
Dependents' Educational Assistance (Veterans)[3]	119	112	108	–11	–9%	41,600 dependents received funds (1993)
Other[4]	1,527	1,595	2,306	779	51%	N/A
TOTAL[5]	**21,541**	**23,772**	**25,198**	**3,657**	**17%**	**N/A**

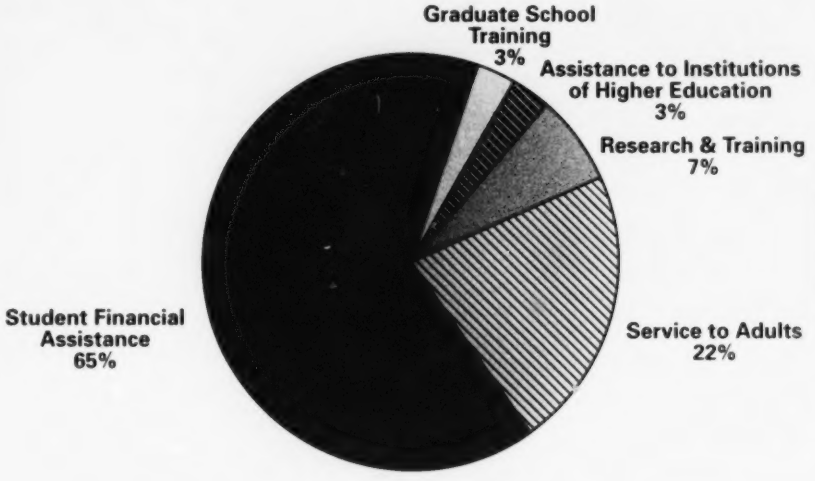
[1] Figures rounded to nearest $1 million.
[2] Does not include programs for the education and training of military and related personnel.
[3] Obligations.
[4] Other federal programs that improve education/provide services to individuals after high school funded for less than $100 million in 1993.
[5] Numbers might not equal the totals due to rounding.

Exhibit 134
Federal Resources[1] by Department/Agency[2] for Programs to Improve Education/Provide Services to the Post-High School Years[3]

Department/ Agency[4]	1993 Constant $ in Millions			1989 - 1993 Change in 1993 Constant Dollars	
	FY 1989	FY 1992	FY 1993	$ in Millions	%
Education	15,051	16,262	17,631	2,580	17%
HHS	2,243	3,005	2,981	738	33%
Labor	2,631	2,700	2,590	–41	–2%
Veterans	1,019	970	1,135	116	11%
Agriculture	163	188	189	26	16%
NSF	112	175	216	104	93%
Interior	81	91	87	6	8%
Transportation	76	90	90	14	18%
Energy	0	78	67	N/A	N/A
NEH	73	80	78	5	7%
NASA	37	61	62	25	68%
Smithsonian	28	32	30	2	8%
ACTION	12	14	15	3	28%
Housing	6	8	8	2	38%
EPA	1	3	2	1	73%
Commerce	5	4	6	1	30%
HST	2	3	3	1	30%
BGSF	1	3	3	2	173%
NEA	1	2	1	<1	-13%
OPM	0	2	2	N/A	N/A
JMMFF	0	1	1	N/A	N/A
Justice	1	1	1	<1	–13%
TOTAL[5]	**21,541**	**23,772**	**25,198**	**3,657**	**17%**

[1] Figures rounded to nearest $1 million.
[2] Departments/Agencies contributing less than $500,000 in FY 1993 not included.
[3] Does not include post-high school year programs for the education and training of military and related personnel.
[4] Complete Department/Agency titles are in Appendix C.
[5] Numbers might not equal the totals due to rounding.

Exhibit 135
Allocation of 1993 Resources from 23 Largest Federal Post-High School Years Programs


Graduate School Training 3%
Assistance to Institutions of Higher Education 3%
Research & Training 7%
Service to Adults 22%
Student Financial Assistance 65%

Of $25.2 billion, the largest proportion of federal funding for Post-High School Years is spent on student financial assistance.*

* Excluding funds for the education and training of military and related personnel.

Federal Support for Educational Research and Related Activities

The U.S. Office of Management and Budget (OMB) defines educational research as those activities conducted for the primary purpose of acquiring knowledge about, or applying knowledge to, the process of education at all levels, preschool through graduate school, including adult or continuing education. It does not include statistics or assessment-related activities, nor does it include activities that disseminate knowledge gained through research. The federal role in meeting the Goals, however, includes both the components of OMB's definition and those other research-related activities that may lead to the monitoring and achievement of the Goals.

Indicators

Federal investments in educational assessment have made possible the development of more and better information about the condition of education. This will help the Goals Panel better measure the nation's progress toward the Goals.

Currently, the Department of Education's National Center for Education Statistics (NCES), with a fiscal year 1993 budget of $77 million, down $1.6 million in constant dollars from 1992, is the principal federal agency collecting, analyzing, and reporting statistics on the condition of education in the United States. NCES programs include: annual collection of data on elementary and secondary schools; annual collection of data on higher education; several studies of schools; large-scale longitudinal studies of students' progress through school and into the workplace; and the National Assessment of Educational Progress. Exhibit 136 lists NCES activities in this area.

Educational Research Activities

What works and how do we go about informing parents, practitioners, and policymakers? These are the questions that educational research activities, broadly defined, attempt to answer. Most of the funding in this area comes from the Department of Education, followed by the National Science Foundation, the Department of Health and Human Services, and the Department of Defense (see Exhibit 137).

Exhibit 136
Major Activities of the National Center for Education Statistics

Activities	Description	Collection Cycle
National Assessment of Educational Progress	Assesses student achievement in Grades 4, 8, & 12.	Reading and mathematics every 2 years; science & writing every 4 years;other subjects every 6 years.
National Adult Literacy Survey	Assesses basic skills for persons 16 & over in using print information.	Every 4 years since 1993.
International Surveys	Compares the U.S. with other countries on student achievement, curriculum & instruction, etc.	Periodically — no regular schedule.
Compilation of Existing Major Databases for NCES publications[1]	Provides current information on the condition of public & private education.	Publications regularly scheduled.
National Household Education Survey	Collects detailed information on educational issues from a sample of households.	Begun in 1991; annually since 1993.
Schools and Staffing Survey	Collects school work force and teacher supply and demand information.	Begun in the 1987-88 school year; 2-year intervals.
Trend studies[2] such as the National Education Longitudinal Study of 1988, the High School and Beyond Study of 1980 and 1982, and the Beginning Post-secondary Student Longitudinal Study of 1990.	Provides ongoing data about critical transition experiences of students through elementary/secondary/ post-secondary and beyond.	Regular intervals, depending on study, over a long period.

[1] Examples of NCES' most widely used publications are: *The Condition of Education, Digest of Education Statistics,* and *Projections of Education Statistics.*
[2] Trend studies are studies in which data on educational achievement, practice, and policy are collected over time, analyzed, and reported.

Exhibit 137
Federal Department/Agency Resources[1] for Educational Research and Development[2]

Department/ Agency[3]	1993 Constant $ in Millions			1989 - 1993 Change in Constant Dollars	
	FY 1989	FY 1992	FY 1993	$ in Millions	%
Education	169	169	165	–4	–2%
NSF	24	38	50	26	108%
HHS	40	67	—[4]	N/A	N/A
Defense	15	31	—[4]	N/A	N/A
TOTAL[5]	**248**	**305**	**N/A**	**N/A**	**N/A**

[1] Figures rounded to nearest $1 million.
[2] The amounts reported represent only the direct federal dollars provided for educational research and development. Matching funds from states and localities and institutions are not included; nor is direct training support for students and teachers (including scholarships and fellowships).
[3] Complete Department/Agency titles are in Appendix C.
[4] Not reported.
[5] Represents over 95% of total resources in this category.

U.S. Department of Education

The Department of Education supports basic and applied research and development designed to understand and solve problems better in education. The Department's principal agency for these activities is the Office of Educational Research and Improvement (OERI). OERI's 1993 funding for research activities was $71 million, including monies for 25 university-based Education Research & Development (R&D) Centers and ten Regional Education Laboratories. For 1993, the R&D Centers were funded for over $25 million, while the Regional Laboratories received about $35 million.

National Science Foundation

The National Science Foundation (NSF) supports research and development on the processes of teaching and learning mathematics, technology, and the sciences. In addition, it supports the development of basic knowledge about human factors, automated interfaces, and school curricula relevant to mathematics, technology, and the sciences. NSF also supports a number of analyses of state, national, and international data on issues concerning student achievement in science, mathematics, and technology, including support for the development of voluntary nationwide science standards to complement work already accomplished on standards for mathematics education.

Department of Health and Human Services/National Institutes of Health

Most of the educational research supported by the National Institutes of Health (NIH) focuses on the biological basis of learning. Other NIH projects include the development of prototype computer-based curriculum delivery systems for the health professions; support, in conjunction with the Department of Education, for a national center on science teaching and learning; and development of curriculum supplements for middle school students designed to provide information on career choices in the health sciences.

Department of Defense

All of the activities supported by the Department of Defense are designed to establish and apply principles of technology-based instruction to promote learning. Examples include the development and testing of automated training tools and computer programs that help technical experts write instructional materials.

Appendices

APPENDIX A

TECHNICAL NOTES AND SOURCES

General Information

Accuracy of Data

The accuracy of any statistic is determined by the joint effects of "sampling" and "nonsampling" errors. Estimates based on a sample will differ somewhat from the figures that would have been obtained if a complete census had been taken using the same survey instruments, instructions, and procedures. In addition to such sampling errors, all surveys, both universe and sample, are subject to design, reporting, and processing errors and errors due to nonresponse. To the extent possible, these nonsampling errors are kept to a minimum by methods built into the survey procedures. In general, however, the effects of nonsampling errors are more difficult to gauge than those produced by sampling variability.

Sampling Errors

The samples used in surveys are selected from a large number of possible samples of the same size that could have been selected using the same sample design. Estimates derived from the different samples would differ from each other. The difference between a sample estimate and the average of all possible samples is called the sampling deviation. The standard or sampling error of a survey estimate is a measure of the variation among the estimates from all possible samples and, thus, is a measure of the precision with which an estimate from a particular sample approximates the average result of all possible samples.

The sample estimate and an estimate of its standard error permit us to construct interval estimates with prescribed confidence that the interval includes the average result of all possible samples. If all possible samples were selected under essentially the same conditions and an estimate and its estimated standard error were calculated from each sample, then: 1) approximately 2/3 of the intervals from one standard error below the estimate to one standard error above the estimate would include the average value of the possible samples; and 2) approximately 19/20 of the intervals from two standard errors above the estimate to two standard errors below the estimate would include the average value of all possible samples. We call an interval from two standard errors below the estimate to two standard errors above the estimate a 95 percent confidence interval.

Analysis of standard errors can help assess how valid a comparison between two estimates might be. The standard error of a difference between two independent sample estimates is equal to the square root of the sum of the squared standard errors of the estimates. The standard error (se) of the difference between independent sample estimates "a" and "b" is:

$$se_{a,b} = \sqrt{se_a^2 + se_b^2}$$

Nonsampling Errors

Universe and sample surveys are subject to nonsampling errors. Nonsampling errors may arise when respondents or interviewers interpret questions differently; when respondents must estimate values; when coders, keyers, and other processors handle answers differently; when persons who should be included in the universe are not; or when persons fail to respond (completely or partially). Nonsampling errors usually, but not always, result in an understatement of total survey error and thus an overstatement of the precision of survey estimates. Since estimating the magnitude of nonsampling errors often would require special experiments or access to independent data, these magnitudes are seldom available.

Goal 1

Exhibit 1: Prenatal Care

Prenatal care refers to the first visit for health care services during pregnancy.

Race/ethnicity refers to the race of the mother. The data on Hispanic births were reported separately.

Source: U.S. Department of Health and Human Services, *Health, United States, 1992*, and *Healthy People 2000 Review* (Hyattsville, MD: National Center for Health Statistics, 1993), 192-193.

Exhibit 2: Trends in Prenatal Care

See technical note under Exhibit 1.

Race/ethnicity refers to the race of the mother. The data on Hispanic births were not reported separately but were included in the Black and White race categories. In 1970, data on Hispanic births were not collected separately, while in 1980, the information on births of Hispanic parentage was available separately for 22 states. In 1990, data on Hispanic births were available for 48 states and the District of Columbia.

Sources: U.S. Department of Health and Human Services, *Health, United States, 1992*, and *Healthy People 2000 Review* (Hyattsville, MD: National Center for Health Statistics, 1993), 192-193.

U.S. Department of Health and Human Services, *Health United States, 1991*, and *Prevention Profile* (Hyattsville, MD: National Center for Health Statistics, 1992), 130-131.

Exhibit 3: Birthweight

Race/ethnicity refers to the race of the mother. The data on Hispanic births were reported separately.

Source: U.S. Department of Health and Human Services, *Health, United States, 1992*, and *Healthy People 2000* (Hyattsville, MD: National Center for Health Statistics, 1993), 192-193.

Exhibit 4: Birthweight Trends

Race/ethnicity refers to the race of the mother. The data on Hispanic births were not reported separately but were included in the Black and White race categories. In 1970, data on Hispanic births were not collected separately, while in 1980, the information on births of Hispanic parentage was available separately for 22 states. In 1990, data on Hispanic births were available for 48 states and the District of Columbia.

Sources: U.S. Department of Health and Human Services, *Health, United States, 1992*, and *Healthy People 2000* (Hyattsville, MD: National Center for Health Statistics, 1993), 192-193.

U.S. Department of Health and Human Services, *Health United States, 1991*, and *Prevention Profile* (Hyattsville, MD: National Center for Health Statistics, 1992), 127-128.

Exhibit 5: Children's Health Index

The percentages of infants at risk are based on the number of births used to calculate the health index, not the actual number of births. The percentage of complete and usable birth records used to calculate the health index varied from a high of 99.88 to a low of 71.68. Five states (California, Indiana, New York, Oklahoma, and South Dakota) did not collect information on all six risks and are not included in this Report. New Hampshire was included in the U.S. total but not in the race/ethnic totals because the state does not collect information on Hispanic origin. Minority populations may be underrepresented due to the exclusion of the six states, particularly California and New York; therefore, the risk factors by race/ethnicity should be interpreted with caution.

Source: Nicholas Zill and Christine Winquist Nord of Westat, Inc. developed the concept of the Children's Health Index. Stephanie Ventura and Sally Clarke of the National Center for Health Statistics provided the special tabulations of the 1990 birth certificate data needed to produce the index.

Exhibit 6: Immunizations

Source: Data from the 1991 National Health Interview Survey of Child Health, National Center for Health Statistics, presented by Elizabeth R. Zell of the Centers for Disease Control in her speech on "Vaccination Coverage Levels, Two-Year-Old Children, United States, 1991" at the 27th National Immunization Conference, June 14, 1993, Washington, D.C.

Exhibit 7: Medical and Dental Care

The population estimates for the National Household Education Survey (NHES) data on preschool participation and family activities cover 3- to 5-year-old children who are not yet enrolled in kindergarten. Preschool participation includes children enrolled in any center-based program. Age from the NHES:91 was established as of January 1, 1991, and age from the NHES:93 was established as of January 1, 1993.

Source: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey: 1993 School Readiness Interview, unpublished tabulations prepared by Westat, Inc., August 1993.

Exhibit 8: Continuity of Health Care

See technical note regarding NHES population estimates under Exhibit 7.

Source: *Ibid.*

Exhibit 9: Child Nutrition

Source: U.S. Department of Agriculture, Human Nutrition Information Service, "Women 19-50 Years and their Children 1-5 Years, 4 Days, 1986," Nationwide Food Consumption Survey, Continuing Survey of Food Intakes by Individuals, Report No. 86-3 (Hyattsville, MD: Human Nutrition Information Service, 1988), 70-77.

Exhibit 10: Family-Child Literacy Activities

See technical note regarding NHES population estimates under Exhibit 7.

In the NHES:93, information on daily reading was collected using two approaches with split-half samples. The two approaches did not result in significantly different estimates for daily reading among 3- to 5-year-old preschoolers. A combined measure using both items is included in this Report.

Sources: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey: 1991 Early Childhood Component, unpublished tabulations prepared by Westat, Inc., August 1991, August 1992, and August 1993.

U.S. Department of Education, National Center for Education Statistics, National Household Education Survey: 1993 School Readiness Interview, unpublished tabulations prepared by Westat, Inc., August 1993.

Exhibit 11: Family-Child Arts Activities

See technical note regarding NHES population estimates under Exhibit 7.

Source: *Ibid.*

Exhibit 12: Family-Child Learning Opportunities

See technical note regarding NHES population estimates under Exhibit 7.

Source: *Ibid.*

Exhibit 13: Preschool Participation

See technical note regarding NHES population estimates under Exhibit 7.

Source: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey: 1993 School Readiness Interview, unpublished tabulations prepared by Westat, Inc., August 1993.

Exhibit 14: Trends in Nursery School Enrollment

A nursery school is defined by Census as a group or class that is organized to provide educational experiences for children during the year or years preceding kindergarten. It includes instruction as an important and integral phase. Private homes in which essentially custodial care is provided are not considered nursery schools. Children may attend nursery school full- or part-time.

Source: U.S. Department of Commerce, Bureau of the Census, October Current Population Survey, 1973-1992, unpublished tabulations prepared by Management Planning Research Associates, Inc., July 1993.

Exhibit 15: Preschool Programs for Children with Disabilities

Source: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey: 1993 School Readiness Interview, unpublished tabulations prepared by Westat, Inc., August 1993.

Exhibit 16: Quality of Preschool Centers

The term "preschool centers" includes all licensed center-based early education and care programs, as well as religious-sponsored, part-day, and school-based preschool programs that are exempt from licensing. Licensed before- and after-school programs are not included.

A Child Development Associate (CDA) credential is awarded by the Council for Early Childhood Professional Recognition, National Credentialing Program to individuals who have demonstrated competency in six established goal areas. Within a center-based setting, a person who demonstrates competence working

with children aged three through five is a CDA with a Preschool Endorsement. The National Association for the Education of Young Children (NAEYC) recommends that staff in charge of a group of preschool children have at least a CDA credential or an associate degree in Early Childhood Education/ Child Development.

Source: Ellen Eliason Kisker, Sandra L. Hofferth, and Deborah A. Phillips, *Profile of Child Care Settings Study: Early Education and Care in 1990*, submitted to the U.S. Department of Education, Office of Planning, Budget and Evaluation (Princeton, NJ: Mathematica Policy Research, Inc., 1991), and unpublished tabulations, 1992.

Exhibit 17: Quality of Home-Based Preschool Settings

Regulated home-based programs include all family day care programs that are registered, certified, or licensed by state or county government agencies.

See technical note regarding the Child Development Associate (CDA) credential under Exhibit 16.

Source: *Ibid.*

Exhibit 18: Health Insurance/Medicaid

Source: Nicholas Zill and Mary Jo Lawrence, special analysis of data from the 1988 National Health Interview Survey of Child Health, National Center for Health Statistics (Washington, D.C.: Child Trends, Inc., 1991).

Exhibit 19: Parent and Teacher Perceptions of School Readiness

The estimates for items on parent beliefs about readiness for kindergarten are not based on all 3- to 5-year-old preschoolers. Those parents who indicated that they did not plan to send their children to kindergarten were not asked their beliefs about kindergarten readiness. This eliminates only a very small number of cases (n=66) from the analysis.

For parent beliefs, the unit of analysis is the child and not the parent. In about 185 households, two 3- to 5-year-old preschoolers were sampled. The parent belief items were asked once per household; data were duplicated to the second preschooler. The estimates, therefore, represent parents of x percent of preschoolers and not x percent of parents.

Sources: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey: 1993 School Readiness Interview, unpublished tabulations prepared by Westat, Inc., August 1993.

U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System: Kindergarten Teacher Survey on Student Readiness, 1993, unpublished tabulations prepared by Westat, Inc., August 1993.

Goal 2

General

There are a variety of ways to define and calculate dropout rates. Each type of dropout rate measures a different facet of dropping out. Three types of dropout rates are discussed in this report: event rates, status rates, and cohort rates.

- Event rates measure the proportion of students who drop out in a single year without completing high school. Event rates are important because they reveal how many students are leaving high school each year and how each year's rates compare with previous ones. The event dropout rate in 1992 was 4 percent.

- Status rates measure the proportion of the population who have not completed high school and are not enrolled at one point in time, regardless of when they dropped out. Status dropout rates are important because they reveal the extent of the dropout problem in the population and suggest the need for further training and education that will permit these individuals to participate more fully in the economy and the life of the nation. Status dropout rates are much higher than event dropout rates because they represent the cumulative impact of annual event dropout rates over a number of years. The status dropout rate for 16- to 24-year-olds in 1992 was 11 percent.

- Cohort rates measure what happens to a single group (or cohort) of students over a period of time. Cohort rates are important because they reveal how many students in a single age group or grade drop out over time. Cohort rates also allow the calculation of how many dropouts from the cohort eventually complete high school with a diploma or an alternative credential. The cohort rate for 8th graders in 1988 who had dropped out by 10th grade was 7 percent (NELS:88 First Follow-up), while the cohort rate for 1990 sophomores who dropped out by the end of 12th grade was 6 percent (NELS:88 Second Follow-up).

Exhibit 20: High School Completion Status

There are two major paths to high school completion. Most students receive a regular high school diploma after completing the requisite secondary school coursework; other students, regardless of the number of high school courses they have completed, receive an alternative credential such as a General Educational Development (GED) certificate, Individual Education Plan (IEP) credential, or certificate of attendance. The high school completion rate for this Report was calculated by combining data for students receiving regular high school diplomas with data for students receiving alternative credentials.

For this Report, completion rates were calculated for 19- to 20-year-olds and for 23- to 24-year-olds. Persons still enrolled in high school were not included in the calculation.

Source: Marilyn M. McMillen, Phillip Kaufman, Elvie Hausken, and Denise Bradby, *Dropout Rates in the United States: 1992* (Washington, D.C.: U.S. Department of Education, National Center for Education Statistics, 1993), 142, 150, and unpublished tables from the October 1992 Current Population Survey, prepared by Management Planning Research Associates, Inc., 1993.

Exhibit 21: High School Completion Trends

See technical note under Exhibit 20.

The trend in high school completion should be interpreted with caution. A rewording of the educational attainment question on the Current Population Survey (CPS) may have contributed to the change in the completion rate between 1991 and 1992.

Source: Marilyn M. McMillen, Phillip Kaufman, Elvie Hausken, and Denise Bradby, *Dropout Rates in the United States: 1992* (Washington, D.C.: U.S. Department of Education, National Center for Education Statistics, 1993), 142.

Exhibit 22: Dropouts Who Returned to High School

Source: Mary J. Frase, *Dropout Rates in the United States: 1988* (Washington, D.C.: U.S. Department of Education, National Center for Education Statistics, 1989), 39.

Exhibit 23: Trends in High School Dropout Rates

See general technical note regarding the definitions of the various dropout rates.

The trends in high school dropout rates should be interpreted with caution. A recent redesign of the CPS introduced a change in the data used to identify high school completers. Dropout data for years prior to 1992 relied solely on school enrollment and educational attainment from the October CPS Supplement. Dropout data for the current year are based on a combination of control card data on educational attainment and October Supplement data on school enrollment and educational attainment.

Source: Marilyn M. McMillen, Phillip Kaufman, Elvie Hausken, and Denise Bradby, *Dropout Rates in the United States: 1992* (Washington, D.C.: U.S. Department of Education, National Center for Education Statistics, 1993), 105.

Exhibit 24: Ten-Year Comparison of Dropout Rates

See general technical note regarding the definitions of the various dropout rates.

Source: Marilyn McMillen, Elvie Hausken, Phillip Kaufman, Steven Ingels, Katy Dowd, Martin Frankel, and Jiahe Qian, *Dropping Out of School: 1982 and 1992* (Washington, D.C.: U.S. Department of Education, National Center for Education Statistics, August 1993).

Exhibit 25: Intergenerational Analysis of Dropouts

See general technical note regarding the definitions of the various dropout rates.

Source: Mary J. Frase, *Are High Hispanic Rates Related to Migration?* (Washington, D.C.: U.S. Department of Education, National Center for Education Statistics, 1992).

Exhibit 26: Factors Related to Dropping Out

See general technical note regarding the definitions of the various dropout rates.

The measure for socioeconomic status is based on an index created by the National Opinion Research Center for the High School and Beyond Survey. This index gives equal weights to five student characteristics: mother's education, father's education, family income, father's occupational status, and possessions in the home.

Source: Mary J. Frase, *Dropout Rates in the United States: 1988* (Washington, D.C.: U.S. Department of Education, National Center for Education Statistics, 1989), 26.

Exhibit 27: Reasons for Dropping Out, by Sex

See general technical note regarding the definitions of the various dropout rates.

Source: Marilyn M. McMillen, Phillip Kaufman, Elvie Hausken, and Denise Bradby, *Dropout Rates in the United States: 1992* (Washington, D.C.: U.S. Department of Education, National Center for Education Statistics, 1993), 36.

Exhibit 28: Reasons for Dropping Out, by Race/Ethnicity

See general technical note regarding the definitions of the various dropout rates.

Source: *Ibid.*

Exhibit 29: Reasons for Dropping Out, by Age Group

See general technical note regarding the definitions of the various dropout rates.

Source: *Ibid*, 36, 82.

Goal 3

General

National Assessment of Educational Progress (NAEP)

NAEP is a survey of the educational achievement of American students and changes in that achievement across time. Since 1969, NAEP has assessed the achievement of national samples of 9-, 13-, and 17-year-old students in public and private schools. In 1983, it expanded the samples so that grade-level results could be reported. In 1990 and 1992, NAEP started to assess 4th, 8th, and 12th graders.

The assessments, conducted annually until the 1979-80 school year and biennially since then, have included periodic measures of student performance in reading, mathematics, science, writing, U.S. history, civics, geography, and other subject areas. NAEP also collects demographic, curricular, and instructional background information from students, teachers, and school administrators.

In 1988, Congress added a new dimension to NAEP by authorizing, on a trial basis, voluntary participation of public schools in state-level assessments in 1990 and 1992. Forty jurisdictions (states and territories) participated in the 1990 trial mathematics assessment. In 1992, 44 jurisdictions participated in the state mathematics assessments of 4th and 8th graders and 43 participated in the 4th grade reading assessments.

National Assessment Governing Board (NAGB) Achievement Levels

NAGB has established standards for reporting the results of the National Assessment of Educational Progress (NAEP). This effort has resulted in three achievement levels: basic, proficient, and advanced.

Basic: *This level, below proficient, denotes partial mastery of knowledge and skills that are fundamental for proficient work at each grade — 4, 8, and 12.* For 12th grade, this level is higher than minimum competency skills (which are normally taught in elementary and junior high school) and covers significant elements of standard high school-level work.

Proficient: *This central level represents solid academic performance for each grade tested — 4, 8, and 12. It reflects a consensus that students reaching this level have demonstrated competency over challenging subject matter and are well prepared for the next level of schooling.* At Grade 12, the proficient level encompasses a body of subject-matter knowledge and analytical skills, and of cultural literacy and insight, . . . all high school graduates should have for democratic citizenship, responsible adulthood, and productive work.

Advanced: *This higher level signifies superior performance beyond proficient grade-level mastery at Grades 4, 8, and 12.* For 12th grade, the advanced level shows readiness for rigorous college courses, advanced training, or employment requiring advanced academic achievement.

The NAGB achievement levels were determined through reasoned judgements of what students should know and be able to do. They are attempts to characterize overall student performance in particular subject matter. Readers should exercise caution, however, in making particular inferences about what students at each level actually know and can do. A NAEP assessment is a complex picture of student achievement, and applying external standards for performance is a difficult task. Evaluation studies completed and under way have raised questions about the degree to which the standards in the NAGB achievement levels are actually reflected in an assessment and, hence, the degree to which inferences about actual performance can be made from these achievement levels. The Goals Panel acknowledges these limitations but

believes that, used with caution, these levels convey important information about how American students are faring in reaching Goal 3.

National Assessment Governing Board (NAGB) Item Difficulty Analysis

Items were first ranked by their p-values, i.e., by the proportion of all students taking the test who answered the item correctly. The higher the p-value, the larger the proportion of students who answered it correctly and, therefore, the easier the item. This array of items was then divided into equal quartiles and each quartile of items labeled either "easy," "moderate," "challenging," or "very challenging." The proportion of each of these item classes that were answered correctly by students reaching the Basic, Proficient, or Advanced levels on the NAEP was then calculated. Thus, for example, it is possible to report the average percentage of "easy" NAEP mathematics items that students at the Basic level in Grade 4 answered correctly.

Exhibit 30: Mathematics Achievement

See general technical notes regarding NAEP and the NAGB achievement levels.

Source: Ina V.S. Mullis, John A. Dossey, Eugene H. Owen, and Gary W. Phillips, *NAEP 1992 Mathematics Report Card for the Nation and the States: Data from the National and Trial State Assessments* (Washington, D.C.: U.S. Department of Education, National Center for Education Statistics, April 1993), 64.

Exhibit 31: Mathematics Achievement — Grade 4

See general technical notes regarding NAEP and the NAGB achievement levels.

Source: *Ibid*, 93, 107.

Exhibit 32: Mathematics Achievement — Grade 8

See general technical notes regarding NAEP and the NAGB achievement levels.

Source: *Ibid.*

Exhibit 33: Mathematics Achievement — Grade 12

See general technical notes regarding NAEP and the NAGB achievement levels.

Source: *Ibid.*

Exhibit 34: Reading Achievement

See general technical notes regarding NAEP and the NAGB achievement levels.

Source: Ina V.S. Mullis, Jay Campbell, and Alan Farstrup, *NAEP 1992 Reading Report Card for the Nation and the States: Data from the National and Trial State Assessments* (Washington, D.C.: U.S. Department of Education, National Center for Education Statistics, 1993).

Exhibit 35: Reading Achievement — Grade 4

See general technical notes regarding NAEP and the NAGB achievement levels.

Source: *Ibid.*

Exhibit 36: Reading Achievement — Grade 8

See general technical notes regarding NAEP and the NAGB achievement levels.

Source: *Ibid.*

Exhibit 37: Reading Achievement — Grade 12

See general technical notes regarding NAEP and the NAGB achievement levels.

Source: *Ibid.*

Exhibit 38: Trends in Writing Proficiency

To examine trends in writing achievement from 1984 to 1990, one set of analyses based on primary trait scoring was conducted which focused on the writer's effectiveness in accomplishing each task. Primary trait scoring is designed to be sensitive to the writer's understanding of the audience as well as to the inclusion of specific features needed to accomplish the specific purpose of that task. The primary trait scoring criteria, while specific to each writing prompt, also defined five levels of task accomplishment: not rated, unsatisfactory, minimal, adequate, and elaborated.

Source: Ina V.S. Mullis, John A. Dossey, Mary Foertsh, Lee Jones, and Claudia Gentile, *Trends in Academic Progress: Achievement of U.S. Students in Science, 1969-70 to 1990, Mathematics, 1973 to 1990, Reading, 1971 to 1990, and Writing, 1984 to 1990* (Washington, D.C.: U.S. Department of Education, National Center for Education Statistics, 1991), 2.

Exhibit 39: Trends in Science Proficiency

Levels of Science Proficiency

- Level 150—Knows Everyday Science Facts — Students at this level know some general scientific facts of the type that could be learned from everyday experiences. They can read simple graphs, match the distinguishing characteristics of animals, and predict the operation of familiar apparatuses that work according to mechanical principles.

- Level 200—Understands Simple Scientific Principles — Students at this level are developing some understanding of simple scientific principles, particularly in the Life Sciences. For example, they exhibit some rudimentary knowledge of the structure and function of plants and animals.

- Level 250—Applies Basic Scientific Information— Students at this level can interpret data from simple tables and make inferences about the outcomes of experimental procedures. They exhibit knowledge and understanding of the Life Sciences, including a familiarity with some aspects of animal behavior and of ecological relationships. These students also demonstrate some knowledge of basic information from the Physical Sciences.

- Level 300—Analyzes Scientific Procedures and Data — Students at this level can evaluate the appropriateness of the design of an experiment. They have more detailed scientific knowledge, and the skill to apply their knowledge in interpreting information from text and graphs. These students also exhibit a growing understanding of principles from the Physical Sciences.

- Level 350—Integrates Specialized Scientific Information — Students at this level can infer relationships and draw conclusions using detailed scientific knowledge from the Physical Sciences, particularly Chemistry. They also can apply basic principles of genetics and interpret the societal implications of research in this field.

Source: *Ibid.*

Exhibit 40: Advanced Placement Results — English, Mathematics, Science, and History

The Advanced Placement program, sponsored by The College Board, provides a way for high schools to offer college-level coursework to students. At present, one or more course descriptions, examinations, and sets of curricular materials are available in art, biology, chemistry, computer science, economics, English, French, German, government and politics, history, Latin, mathematics, music, physics, and Spanish. Advanced Placement examinations, which are given in May, are graded on a five-point scale: 5 - extremely well qualified; 4 - well qualified; 3 - qualified; 2 - possibly qualified; and 1 - no recommendation. Grades of 3 and above generally are accepted for college credit and advanced placement at participating colleges and universities. Two Advanced Placement measures are included in this report: the number of examinations per 1,000 11th and 12th graders, and the number of examinations graded 3 or above per 1,000 11th and 12th graders. The number of 11th and 12th graders includes public and private students. The enrollment figures were arrived at by multiplying the public enrollment by a private-enrollment adjustment factor.

Source: The College Board, Advanced Placement Program, Results from the 1991 and 1993 Advanced Placement Examinations, unpublished tabulations, August 1991 and August 1993.

Exhibit 41: Trends in Advanced Placement Examinations — English, Mathematics, Science, and History

See technical note under Exhibit 40.

Source: The College Board, Advanced Placement Program, Results from the Advanced Placement Examinations, various years, and unpublished tabulations, August 1991, August 1992, and August 1993.

Exhibit 42: Advanced Placement Results — Foreign Languages and Fine Arts

See technical note under Exhibit 40.

Source: The College Board, Advanced Placement Program, Results from the 1991 and 1993 Advanced Placement Examinations, unpublished tabulations, August 1991 and August 1993.

Exhibit 43: Trends in Advanced Placement Examinations — Foreign Languages and Fine Arts

See technical note under Exhibit 40.

Source: The College Board, Advanced Placement Program, Results from Advanced Placement Examinations, various years, unpublished tabulations, August 1991, August 1992, and August 1993.

Exhibit 44: Knowledge of Civics

Levels of Civics Proficiency

- Level 200—Recognizes the Existence of Civic Life — Students at this level have a rudimentary knowledge of civics. They possess a beginning political awareness of the distinctions between the public and private domains and are familiar with some of the functions of government that pervade their immediate experience. They have some knowledge about elections and are developing an awareness of democratic principles such as the rule of law, as evidenced by their understanding that laws apply to government officials. These students also recognize that individuals—specifically the accused—have rights. Their elementary political vocabulary includes such terms as candidate, ballot, vice-president, judge, juror, and citizen.

- Level 250—Understands the Nature of Political Institutions and the Relationship Between Citizen and Government — Students at this level are developing a knowledge of the nature of democratic institutions and processes. For example, they recognize the value of having more than one candidate in an election and the importance of the secret ballot. They are aware of the functions of a variety of government institutions and display a beginning understanding of federalism, as indicated by their ability to recognize the responsibilities of different levels of government. These students are developing an understanding of the reciprocal relationship between citizen and government. In addition to perceiving the purpose of individual rights in a democratic society and being able to identify some of these rights, such as the right to vote, they know of alternative ways to influence government—for example, making public speeches or writing letters to public officials. These students are developing a broader and more diverse political vocabulary.

- Level 300—Understands Specific Government Structures and Functions — At this level, students have a more differentiated understanding of the structures, functions, and powers of American government as prescribed in the Constitution. For example, they have an increased understanding of federalism, are aware of the separation and allocation of powers, and grasp the concept of judicial review. These students are also familiar with certain historical events and legal precedents that have helped to shape our democratic heritage. They can apply their knowledge of individual rights to particular situations, and their conception of citizen action now includes cooperative political activity, such as boycotts and lobbying. These students are familiar with such terms as chief executive, constitutional rights, veto, and lobbyist, indicating an increasing understanding of the language of American politics. They can apply their civic knowledge to a large number and variety of complex situations.

- Level 350—Understands a Variety of Political Institutions and Processes — Students at this level are distinguished by their broader and more detailed knowledge of the various institutions of government. For example, they can describe the responsibilities of the president, the Congressional power to override presidential vetoes and levy taxes, and the practice of judicial review. These students have a more elaborated understanding of a range of political processes—for example, presidential campaigns, primary elections, and public opinion polls. Their expanding political vocabulary includes such specialized terms as closed primary, impeachment, referendum, and recall election.

Source: Lee Anderson, Lynn B. Jenkins, James Leming, Walter B. MacDonald, Ina V.S. Mullis, Mary Jane Turner, and Judith Wooster, *The Civics Report Card* (Princeton, NJ: Educational Testing Service, National Assessment of Educational Progress, 1990), 29, 47.

Exhibit 45: Community Service

Source: Mary J. Frase, *High School Seniors Performing Community Service* (Washington, D.C.: U.S. Department of Education, National Center for Education Statistics, 1993).

Exhibit 46: Young Adult Voter Registration and Voting

Sources: U.S. Department of Commerce, Bureau of the Census, *Voting and Registration in the Election of November 1988*, Current Population Reports, Series P-20, no. 440 (Washington, D.C.: U.S. Government Printing Office, 1989), calculations by the National Education Goals Panel.

U.S. Department of Commerce, Bureau of the Census, *Voting and Registration in the Election of November 1992*, Current Population Reports, Series P-20, no. 466 (Washington, D.C.: U.S. Government Printing Office, 1993), calculations by the National Education Goals Panel.

Exhibit 47: Trends in Young Adult Voter Registration and Voting

Source: U.S. Department of Commerce, Bureau of the Census, *Voting and Registration in the Election of November. . .* various years, Current Population Reports, Series P-20 (Washington, D.C.: U.S. Government Printing Office, various years), calculations by the National Education Goals Panel.

Exhibit 48: High School Course Completion — English and Science

Source: National Center for Education Statistics, *The 1990 High School Transcript Study Tabulations: Comparative Data on Credits Earned and Demographics for 1990, 1987, and 1982 High School Graduates* (Washington, D.C.: U.S. Department of Education, January 1993), A124, A126, A157, A159.

Exhibit 49: High School Course Completion — Mathematics

Source: *Ibid*, A144, A147.

Exhibit 50: High School Course Completion — History and Geography

Source: *Ibid*, A131, A134.

Exhibit 51: High School Course Completion — Foreign Languages and Fine Arts

Source: *Ibid*, A164, A166, A171, A173.

Exhibit 52: High School Programs Attended

Source: National Center for Education Statistics, National Longitudinal Study of 1972, High School and Beyond, 1980, and the National Educational Longitudinal Study, Second Follow-up, 1992, unpublished tabulations, 1993.

Goal 4

Exhibit 53: International Science and Mathematics Achievement Comparisons

International Assessment of Educational Progress (IAEP)

Twenty countries assessed the mathematics and science achievement of 13-year-old students and 14 assessed 9-year-old students in these same subjects. In some cases, participants assessed virtually all age-eligible children in their countries, and in other cases they confined samples to certain geographic regions, language groups, or grade levels. In some countries, significant proportions of age-eligible children were not represented because they did not attend school. Also, in some countries, low rates of school or student participation mean that results may be biased. The countries participating in the IAEP were: Brazil, Canada, China, England, France, Hungary, Ireland, Israel, Italy, Jordan, Korea, Mozambique (mathematics only), Portugal, Scotland, Slovenia, the former Soviet Union, Spain, Switzerland, Taiwan, and the United States. For this Report, the five countries chosen to be compared with the United States had comprehensive populations (France, Hungary, Korea, Switzerland, and Taiwan).

Sources: Archie E. LaPointe, Janice M. Askew, and Nancy A. Mead, *Learning Science* (Princeton, NJ: Educational Testing Service, Center for the Assessment of Educational Progress, 1992), 18.

Archie E. LaPointe, Janice M. Askew, and Nancy A. Mead, *Learning Mathematics* (Princeton, NJ: Educational Testing Service, Center for the Assessment of Educational Progress, 1992), 18.

Exhibit 54: Science Instructional Practices

See general technical note under Goal 3 regarding NAEP.

Source: Lee R. Jones, Ina V.S. Mullis, Senta A. Raizen, Iris R. Weiss, and Elizabeth A. Weston, *The 1990 Science Report Card: NAEP's Assessment of Fourth, Eighth, and Twelfth Graders* (Washington, D.C.: U.S. Department of Education, National Center for Education Statistics, 1992), and unpublished tabulations prepared by Westat, Inc., August 1992.

Exhibit 55: Science Instructional Practices, by Sex and by Race/Ethnicity

See general technical note under Goal 3 regarding NAEP.

Source: *Ibid.*

Exhibit 56: Mathematics Instructional Practices — Grade 4

See general technical note under Goal 3 regarding NAEP.

Source: National Center for Education Statistics, *Data Compendium for the NAEP 1992 Mathematics*

Assessment of the Nation and the States (Washington, D.C.: U.S. Department of Education, May 1993), 483, 497, 446, 451, 566, 552.

Exhibit 57: Mathematics Instructional Practices — Grade 4, by Sex and by Race/Ethnicity

See general technical note under Goal 3 regarding NAEP.

Source: National Center for Education Statistics, NAEP 1990, 1992 National Mathematics Assessments – Data Almanac, 1993.

Exhibit 58: Mathematics Instructional Practices — Grade 8

See general technical note under Goal 3 regarding NAEP.

Source: National Center for Education Statistics, *Data Compendium for the NAEP 1992 Mathematics Assessment of the Nation and the States* (Washington, D.C.: U.S. Department of Education, May 1993), 483, 497, 446, 451, 566, 552.

Exhibit 59: Mathematics Instructional Practices — Grade 8, by Sex

See general technical note under Goal 3 regarding NAEP.

Source: National Center for Education Statistics, NAEP 1990, 1992 National Mathematics Assessments – Data Almanac, 1993.

Exhibit 60: Mathematics Instructional Practices — Grade 8, by Race/Ethnicity

See general technical note under Goal 3 regarding NAEP.

Source: *Ibid.*

Exhibit 61: Priority of Science and Mathematics in Schools

See general technical note under Goal 3 regarding NAEP.

Sources: Lee R. Jones, Ina V.S. Mullis, Senta A. Raizen, Iris R. Weiss, and Elizabeth A. Weston, *The 1990 Science Report Card: NAEP's Assessment of Fourth, Eighth, and Twelfth Graders* (Washington, D.C.: U.S. Department of Education, National Center for Education Statistics, 1992), 78.

National Center for Education Statistics, *Data Compendium for the NAEP 1992 Mathematics Assessment of the Nation and the States* (Washington, D.C.: U.S. Department of Education, May 1993), 418.

Exhibit 62: Trends in Advanced Placement Science Examinations, by Sex

See technical note under Exhibit 40.

Source: The College Board, Advanced Placement Program, Results from Advanced Placement Examinations, National Summary Reports, various years.

Exhibit 63: Trends in Advanced Placement Mathematics Examinations, by Sex

See technical note under Exhibit 40.

Source: *Ibid.*

Exhibit 64: Trends in Advanced Placement Science Examinations, by Race/Ethnicity

See technical note under Exhibit 40.

Source: *Ibid.*

Exhibit 65: Trends in Advanced Placement Mathematics Examinations, by Race/Ethnicity

See technical note under Exhibit 40.

Source: *Ibid.*

Exhibit 66: Science and Mathematics Degrees Awarded to U.S. Citizens

The number of science degrees awarded per 1,000 22-year-olds was calculated by dividing the combined number of bachelor's, master's, and doctoral degrees in science by the number of 22-year-olds in the resident population and multiplying the result by 1,000. A similar process was used to calculate the number of mathematics degrees per 1,000 22-year-olds. The data on mathematics and science degrees come from the National Science Foundation and National Research Council. The data on resident population are from the U.S. Bureau of the Census.

Degrees Earned

Data include only U.S. citizens and resident aliens on permanent visas, and include institutions in U.S. Territories.

Bachelor's and Master's Degrees

The National Education Goals Panel combined the following fields to calculate the total number of science and engineering degrees earned: Engineering, Physical Sciences, Computer Science, Biological Science, Agricultural Science, Social Science, Psychology, and Health Fields. (Between 1981 and 1985, major changes were made to the Social Science category.)

The number of mathematics degrees come from a single field of study, Mathematical Science.

Data for bachelor's and master's degrees were collected by NCES, biennial data from the Higher Education General Information Survey (HEGIS) Earned Degrees Surveys, 1977-85, and Integrated Post-secondary Education Data System (IPEDS) Completions Surveys, 1987-90. Data on race/ethnicity were collected biennially from 1977 through 1989 and annually thereafter, but data for 1983 were not released by NCES. National Science Foundation (NSF)/Division of Science Resources Studies tabulated the data. Because data on race/ethnicity of degree recipients are collected on broad fields of study only, these data could not be adjusted to the exact field taxonomies used by the NSF.

Doctoral Degrees

The National Education Goals Panel combined the following fields to calculate the total number of science and engineering doctorates earned: Engineering; Physical Sciences; Earth, Atmospheric, and Ocean Sciences; Computer Science; Agricultural and Biological Sciences; Social Science; Psychology; and Health Sciences.

Data on doctorates come from the Survey of Earned Doctorates, which is conducted by the National Research Council (NRC).

Sources: National Science Foundation, *Science and Engineering Degrees, by Race/Ethnicity: 1977-90, A Source Book, Detailed Statistical Tables* (Washington, D.C., 1992), and unpublished tabulations from the National Science Foundation and Quantum Research Corporation, August 1993.

National Science Foundation, *Science and Engineering Doctorate Awards: 1991*, NSF 92-309, Selected Data Tables (Washington, D.C., 1992).

National Science Foundation, *Science and Engineering Doctorates: 1960-91*, NSF 93-301, Detailed Statistical Tables (Washington, D.C., 1993).

Doctorate Records File, National Research Council, "Affirmative Action Table #3: Ph.D.s Awarded to U.S. Citizens and Permanent Residents, by Race/Ethnicity, Gender, Fine Field, and Year, 1975-1991" (Washington, D.C., September 1992).

U.S. Bureau of the Census, *U.S. Population Estimates, by Age, Sex, Race, and Hispanic Origin: 1980 to 1991*, Current Population Reports, Series P-25, No. 1095 (Washington, D.C.: U.S. Government Printing Office, February 1993).

Calculations by the National Education Goals Panel.

Exhibit 67: Trends in Science Degrees Earned, by Sex

See technical notes under Exhibit 66.

Sources: National Science Foundation, *Science and Engineering Degrees, by Race/Ethnicity: 1977-90, A Source Book, Detailed Statistical Tables* (Washington, D.C., 1992), and unpublished tabulations from the National Science Foundation and Quantum Research Corporation, August 1993.

National Science Foundation, *Science and Engineering Doctorate Awards: 1991*, NSF 92-309, Selected Data Tables (Washington, D.C., 1992).

National Science Foundation, *Science and Engineering Doctorates: 1960-91*, NSF 93-301, Detailed Statistical Tables (Washington, D.C., 1993).

Doctorate Records File, National Research Council, "Affirmative Action Table #3: Ph.D.s Awarded to U.S. Citizens and Permanent Residents, by Race/Ethnicity, Gender, Fine Field, and Year, 1975-1991" (Washington, D.C., September 1992).

Calculations by the National Education Goals Panel.

Exhibit 68: Trends in Mathematics Degrees Earned, by Sex

See technical notes under Exhibit 66.

Source: *Ibid.*

Exhibit 69: Trends in Science Degrees Earned, by Race/Ethnicity

See technical notes under Exhibit 66.

Source: *Ibid.*

Exhibit 70: Trends in Mathematics Degrees Earned, by Race/Ethnicity

See technical notes under Exhibit 66.

Source: *Ibid.*

Exhibit 71: Science and Mathematics Teacher Preparation

Science and mathematics teacher characteristics are presented for teachers whose primary teaching assignment was in science or mathematics, and who received a degree in their field, including teachers majoring in science education or mathematics education. High school teachers are defined as full-time teachers teaching in Grades 9, 10, 11, or 12.

Source: U.S. Department of Education, National Center for Education Statistics, 1987-88 and 1990-91 Teacher Survey of the Schools and Staffing Survey (SASS), unpublished tabulations, August 1992.

Exhibit 72: International Science Comparisons: Differences in School, Home, and Student Characteristics

See technical note under Exhibit 53.

Source: Archie E. LaPointe, Janice M. Askew, and Nancy A. Mead, *Learning Science* (Princeton, NJ: Educational Testing Service, Center for the Assessment of Educational Progress, 1992), 47, 63, 67.

Exhibit 73: International Mathematics Comparisons: Differences in School, Home, and Student Characteristics

See technical note under Exhibit 53.

Source: Archie E. LaPointe, Janice M. Askew, and Nancy A. Mead, *Learning Mathematics* (Princeton, NJ: Educational Testing Service, Center for the Assessment of Educational Progress, 1992), 49, 63, 67.

Exhibit 74: Student Attitudes Toward Science and Mathematics

See general technical note under Goal 3 regarding NAEP.

Sources: Lee R. Jones, Ina V.S. Mullis, Senta A. Raizen, Iris R. Weiss, and Elizabeth A. Weston, *The 1990 Science Report Card: NAEP's Assessment of Fourth, Eighth, and Twelfth Graders* (Washington, D.C.: U.S. Department of Education, National Center for Education Statistics, 1992), 81.

National Center for Education Statistics, *Data Compendium for the NAEP 1992 Mathematics Assessment of the Nation and the States* (Washington, D.C.: U.S. Department of Education, May 1993), 358, and unpublished tabulations prepared by the Educational Testing Service, July 1993.

Goal 5

Exhibit 75: Adult Literacy

Adult Literacy Scales

The Department of Education (ED) and the Educational Testing Service (ETS) characterized the literacy of America's adults in terms of three "literacy scales" representing distinct and important aspects of literacy: prose, document, and quantitative literacy. Each of the literacy scales, which range from 0 to 500, is as follows:

Prose literacy – the knowledge and skills needed to understand and use information from texts that include editorials, news stories, poems, and fiction; for example, finding a piece of information in a newspaper article, interpreting instructions from a warranty, inferring a theme from a poem, or contrasting views expressed in an editorial.

Level 1 – Most of the tasks in this level require the reader to read relatively short text to locate a single piece of information which is identical to or synonymous with the information given in the question or directive. If plausible but incorrect information is present in the text, it tends not to be located near the correct information.

Level 2 – Some tasks in this level require readers to locate a single piece of information in the text; however, several distractors or plausible but incorrect pieces of information may be present, or low-level inferences may be required. Other tasks require the reader to integrate two or more pieces of information or to compare and contrast easily identifiable information based on a criterion provided in the question or directive.

Level 3 – Tasks in this level tend to require readers to make literal or synonymous matches between the text and information given in the task, or to make matches that require low-level inferences. Other tasks ask readers to integrate information from dense or lengthy text that contains no organizational aids such as headings. Readers may also be asked to generate a response based on information that can be easily identi-

fied in the text. Distracting information is present, but is not located near the correct information.

Level 4 – These tasks require readers to perform multiple-feature matches and to integrate or synthesize information from complex or lengthy passages. More complex inferences are needed to perform successfully. Conditional information is frequently present in tasks at this level and must be taken into consideration by the reader.

Level 5 – Some tasks in this level require the reader to search for information in dense text which contains a number of plausible distractors. Others ask readers to make high-level inferences or use specialized background knowledge. Some tasks ask readers to contrast complex information.

Document literacy – the knowledge and skills required to locate and use information contained in materials that include job applications, payroll forms, transportation schedules, maps, tables, and graphs; for example, locating a particular intersection on a street map, using a schedule to choose the appropriate bus, or entering information on an application form.

Level 1 – Tasks in this level tend to require the reader either to locate a piece of information based on a literal match or to enter information from personal knowledge onto a document. Little, if any, distracting information is present.

Level 2 – Tasks in this level are more varied than those in Level 1. Some require the readers to match a single piece of information; however, several distractors may be present, or the match may require low-level inferences. Tasks in this level may also ask the reader to cycle through information in a document or to integrate information from various parts of a document.

Level 3 – Some tasks in this level require the reader to integrate multiple pieces of information from one or more documents. Others ask readers to cycle through rather complex tables or graphs which contain information that is irrelevant or inappropriate to the task.

Level 4 – Tasks in this level, like those at the previous levels, ask readers to perform multiple-feature matches, cycle through documents, and integrate information; however, they require a greater degree of inferencing. Many of these tasks require readers to provide numerous responses but do not designate how many responses are needed. Conditional information is also present in the document tasks at this level and must be taken into account by the reader.

Level 5 – Tasks in this level require the reader to search through complex displays that contain multiple distractors, to make high-level text-based inferences, and to use specialized knowledge.

Quantitative literacy – the knowledge and skills required to apply arithmetic operations, either alone or sequentially, using numbers embedded in printed materials; for example, balancing a checkbook, figuring out a tip, completing an order form, or determining the amount of interest from a loan advertisement.

Level 1 – Tasks in this level require readers to perform single, relatively simple arithmetic operations, such as addition. The numbers to be used are provided and the arithmetic operation to be performed is specified.

Level 2 – Tasks in this level typically require readers to perform a single operation using numbers that are either stated in the task or easily located in the material. The operation to be performed may be stated in the question or easily determined from the format of the material (for example, an order form).

Level 3 – In tasks in this level, two or more numbers are typically needed to solve the problem, and these must be found in the material. The operation(s) needed can be determined from the arithmetic relation terms used in the question or directive.

Level 4 – These tasks tend to require readers to perform two or more sequential operations or a single operation in which the quantities are found in different types of displays, or the operations must be inferred from semantic information given or drawn from prior knowledge.

Level 5 – These tasks require readers to perform multiple operations sequentially. They must disembed the features of the problem from text or rely on background knowledge to determine the quantities or operations needed.

Source: Irwin S. Kirsch, Ann Jungeblut, Lynn Jenkins, and Andrew Kolstad, *Adult Literacy in*

America: A First Look at the Results of the National Adult Literacy Survey (Washington, D.C.: U.S. Department of Education, National Center for Education Statistics, September 1993), 17.

Exhibit 76: Adults' Perceptions of Own Literacy Abilities, by Literacy Level

See technical note regarding the literacy scales under Exhibit 75.

Source: *Ibid*, 138-140.

Exhibit 77: Adult Literacy, by Highest Level of Education

See technical note regarding the literacy scales under Exhibit 75.

Source: *Ibid*,, 116-118.

Exhibit 78: Adult Literacy, by Parents' Highest Level of Education

See technical note regarding the literacy scales under Exhibit 75.

Source: *Ibid*,, 126.

Exhibit 79: Adult Literacy, by Race/Ethnicity

See technical note regarding the literacy scales under Exhibit 75.

Source: *Ibid*,, 113-116, and unpublished tabulations from Educational Testing Service, August 1993.

Exhibit 80: Young Adult Literacy

See technical note regarding the literacy scales under Exhibit 75.

Source: Irwin S. Kirsch, Ann Jungeblut, Lynn Jenkins, and Andrew Kolstad, *Adult Literacy in America: A First Look at the Results of the National Adult Literacy Survey* (Washington, D.C.: U.S. Department of Education, National Center for Education Statistics, September 1993), 125.

Exhibit 81: Adult Literacy, by Occupation

See technical note regarding the literacy scales under Exhibit 75.

Source: *Ibid*,, 141-143.

Exhibit 82: Adult Literacy, by Employment Status

See technical note regarding the literacy scales under Exhibit 75.

Source: *Ibid.*

Exhibit 83: Perceived Usefulness of Skills in the Future

The Meaning of Work research project interviewed a random sample of the labor force in Flanders (Belgium) during October-December 1990, in the Federal Republic of Germany during November-December 1989 (before reunification), in Japan during August-November 1991, and in the United States during January-July 1989.

Source: S.A. Ruiz Quintanilla, *Work-Related Attitudes Among Workers in Flanders (Belgium), F.R. Germany, Japan, and the U.S.A., Report prepared for the National Education Goals Panel* (Ithaca: Cornell University, 1992).

Exhibit 84: Perceived Responsibility for Improving Job Performance

See technical note under Exhibit 83.

Source: *Ibid.*

Exhibit 85: Participation in Adult Education

The population estimates for the National Household Education Survey data on participation in adult education cover adults 17 years and older, excluding those engaged in full-time study.

Source: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey: 1991 Adult Education Component, unpublished tabulations prepared by Westat, Inc., August 1991.

Exhibit 86: Participation in Adult Education, by Occupation

See technical note under Exhibit 85.

Source: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey: 1991 Adult Education Component, unpublished tabulations prepared by Westat, Inc., August 1993.

Exhibit 87: Barriers to Adult Education

See technical note under Exhibit 85.

Source: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey: 1991 Adult Education Component, unpublished tabulations prepared by Westat, Inc., August 1991.

Exhibit 88: Employer Support for Adult Education

See technical note under Exhibit 85.

Source: *Ibid.*

Exhibit 89: Worker Training

Source: Tom Amirault, *Job Qualifying and Skill Improvement Training: 1991* (Washington D.C.: U.S. Department of Labor, Bureau of Labor Statistics, 1992).

Exhibit 90: College Enrollment

Source: U.S. Department of Commerce, Bureau of the Census, October Current Population Surveys, 1988-91, unpublished tabulations from the National Center for Education Statistics prepared by Pinkerton Computer Consultants, Inc., August 1991 and August 1993.

Exhibit 91: Trends in College Enrollment

Source: U.S. Department of Commerce, Bureau of the Census, October Current Population Surveys, various years, unpublished tabulations from the National Center for Education Statistics prepared by Pinkerton Computer Consultants, Inc., August 1993.

Exhibit 92: College Completion

Source: U.S. Department of Commerce, Bureau of the Census, 1992 March Current Population Surveys, unpublished tabulations from the National Center for Education Statistics, prepared by Pinkerton Computer Consultants, Inc., August 1993.

Exhibit 93: Voter Registration and Voting

Sources: U.S. Department of Commerce, Bureau of the Census, *Voting and Registration in the Election of November 1988*, Current Population Reports, Series P-20, no. 440 (Washington, D.C.: U.S. Government Printing Office, 1989), calculations by the National Education Goals Panel.

U.S. Department of Commerce, Bureau of the Census, *Voting and Registration in the Election of November 1992*, Current Population Reports, Series P-20, no. 466 (Washington, D.C.: U.S. Government Printing Office, April 1993), calculations by the National Education Goals Panel.

Exhibit 94: Trends in Voter Registration and Voting

For 1972 and 1976, the numbers for non-citizens represent an underestimated count. Therefore, the percentages of adults registering to vote and actually voting in 1972 and 1976 may be artificially low.

Source: U.S. Department of Commerce, Bureau of the Census, *Voting and Registration in the Election of November . . .* various years, Current Population Reports, Series P-20 (Washington, D.C.: U.S. Government Printing Office, various years), calculations by the National Education Goals Panel.

Exhibit 95: Voting Behavior, by Literacy Level

See technical note regarding the literacy scales under Exhibit 75.

Source: Irwin S. Kirsch, Ann Jungeblut, Lynn Jenkins, and Andrew Kolstad, *Adult Literacy in America: A First Look at the Results of the National Adult Literacy Survey* (Washington, D.C.: U.S. Department of Education, National Center for Education Statistics, September 1993), 54.

Exhibit 96: Adults In and Out of the Labor Force, by Literacy Level

See technical note regarding the literacy scales under Exhibit 75.

Source: *Ibid*, 141, calculations by the National Education Goals Panel.

Exhibit 97: Average Number of Weeks Worked, by Literacy Level

See technical note regarding the literacy scales under Exhibit 75.

Source: Irwin S. Kirsch, Ann Jungeblut, Lynn Jenkins, and Andrew Kolstad, *Adult Literacy in America: A First Look at the Results of the National Adult Literacy Survey* (Washington, D.C.: U.S. Department of Education, National Center for Education Statistics, September 1993), 145.

Exhibit 98: Median Weekly Wages, by Literacy Level

See technical note regarding the literacy scales under Exhibit 75.

Source: *Ibid.*

Exhibit 99: Career Expectations of High School Seniors

Source: National Center for Education Statistics, National Longitudinal Study of 1972, High School and Beyond, 1980, and the National Educational Longitudinal Study, Second Follow-up, 1992, unpublished tabulations, 1993.

Goal 6

Exhibit 100: Sale of Drugs at School

Source: Lloyd D. Johnston, Patrick M. O'Malley, and Jerald G. Bachman, *Selected 1992 Outcome Measures from the Monitoring the Future Study for Goal 6 of the National Education Goals: A Special Report for the National Education Goals Panel* (Ann Arbor: University of Michigan's Institute for Social Research, August 1993).

Exhibit 101: Obtaining Illegal Drugs at School

Student's residence (the variable ZIPURBAN) was created by matching NHES:93 5-digit codes to the 1990 Census Bureau file. ZIPURBAN defines a ZIP code (or part of a ZIP code) as urban or rural. Urban is further broken down into the inside urbanized areas (UAs) and outside UAs. The three categories of ZIPURBAN are 1) urban, inside UA; 2) urban, outside UA; and 3) rural. The definitions for these categories are taken directly from the 1990 Census of Population.

A UA comprises a place and the adjacent densely settled surrounding territory that together have a minimum population of 50,000 people. The term "place" in the UA definition includes both incorporated places such as cities and villages, and Census-designated places (unincorporated population clusters for which the Census Bureau delineated boundaries in cooperation with state and local agencies to permit tabulation of data for Census Bureau products). The "densely settled surroundings territory" adjacent to the place consists of contiguous and noncontiguous territory of relatively high population density within short distances.

The urban, outside of UA category includes incorporated or unincorporated places outside of a UA with a minimum population of 2,500 people. One exception is for those who live in extended cities. Persons living in rural portions of extended cities are classified as rural other than urban.

Places not classified as urban are rural.

To classify a ZIP code as one of these three categories, the number of persons in each category for each ZIP code was examined. Since a ZIP code can cut across geographic areas that are classified in any of the three categories, the ZIPURBAN variable is classified into the category that has the largest number of persons.

Source: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey: 1993 School Safety and Discipline Component, unpublished tabulations prepared by Westat, Inc., August 1993.

Exhibit 102: Use of Drugs at School by 8th and 10th Graders

Source: Lloyd D. Johnston, Patrick M. O'Malley, and Jerald G. Bachman, *Selected 1992 Outcome Measures from the Monitoring the Future Study for Goal 6 of the National Education Goals: A Special Report for the National Education Goals Panel* (Ann Arbor: University of Michigan's Institute for Social Research, August 1993).

Exhibit 103: Use of Drugs at School by 12th Graders

The data for the 12th grade racial and ethnic subgroups are three-year averages to increase the sample size and produce more reliable estimates. The racial and ethnic subgroup numbers are 1988-1990 averages for 1990 and 1990-1992 averages for 1992.

Source: *Ibid.*

Exhibit 104: Trends in At-School Drug Use

Source: *Ibid.*

Exhibit 105: Being Under the Influence of Alcohol or Other Drugs While at School

Source: *Ibid.*

Exhibit 106: Witnessing Other Students Under the Influence of Alcohol or Other Drugs While at School

See technical note under Exhibit 101.

Source: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey: 1993 School Safety and Discipline Component, unpublished tabulations prepared by Westat, Inc., August 1993.

Exhibit 107: Overall Student Drug Use

The data for the racial and ethnic subgroups are two-year averages to increase the sample size and produce more reliable estimates. The racial and ethnic subgroup numbers are 1989-1990 averages for 1990 and 1991-1992 averages for 1992.

Use of "any illicit drugs" includes any use of marijuana, hallucinogens, cocaine, and heroin, or use of any other opiates, stimulants, barbiturates, methaqualone (excluded since 1990), or tranquilizers not under a doctor's orders.

Source: Lloyd D. Johnston, Patrick M. O'Malley, and Jerald G. Bachman, *Selected 1992 Outcome Measures from the Monitoring the Future Study for Goal 6 of the National Education Goals: A Special Report for the National Education Goals Panel* (Ann Arbor: University of Michigan's Institute for Social Research, August 1993).

Exhibit 108: Trends in Overall Student Drug Use

See technical note regarding illicit drug use under Exhibit 107.

Source: *Ibid.*

Exhibit 109: Carrying Weapons to School

Source: *Ibid.*

Exhibit 110: Student Victimization

Source: *Ibid.*

Exhibit 111: Threats and Injuries with Weapons

See technical note under Exhibit 103.

The data for the 8th and 10th grade racial and ethnic subgroups are two-year averages to increase the sample size and produce more reliable estimates. The racial and ethnic subgroup numbers are 1991-1992 averages for 1992.

Source: *Ibid.*

Exhibit 112: Student Victimization Trends

Source: *Ibid.*

Exhibit 113: Student Membership in Gangs

See technical note under Exhibit 101.

Source: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey: 1993 School Safety and Discipline Component, unpublished tabulations prepared by Westat, Inc., August 1993.

Exhibit 114: Student Safety

Source: Lloyd D. Johnston, Patrick M. O'Malley, and Jerald G. Bachman, *Selected 1992 Outcome Measures from the Monitoring the Future Study for Goal 6 of the National Education Goals: A Special Report for the National Education Goals Panel* (Ann Arbor: University of Michigan's Institute for Social Research, August 1993).

Exhibit 115: Teacher Safety

Definitions of school locations used in the school safety and teacher victimization exhibits are as follows:

City – A central city of a Standard Metropolitan Statistical Area (SMSA).

Suburb/Urban Fringe – A place within an SMSA of a large or mid-size central city and defined as urban by the U. S. Bureau of the Census.

Town – A place not within an SMSA, but with a population greater than or equal to 2,500, and defined as urban by the U. S. Bureau of the Census.
Rural – A place with a population less than 2,500 and defined as rural by the U. S. Bureau of the Census.

Source: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, Teacher Survey on Safe, Disciplined, and Drug-free Schools, FRSS 42, 1991.

Exhibit 116: Teacher Victimization

See technical note under Exhibit 115. Victimization at-school includes victimization inside the school building, on school grounds, or on a school bus.

Source: *Ibid.*

Exhibit 117: Disruptions in Class by Students

Source: Lloyd D. Johnston, Patrick M. O'Malley, and Jerald G. Bachman, *Selected 1992 Outcome Measures from the Monitoring the Future Study for Goal 6 of the National Education Goals: A Special Report for the National Education Goals Panel* (Ann Arbor: University of Michigan's Institute for Social Research, August 1993).

Exhibit 118: Skipping School and Classes

See technical note under Exhibit 107.

Source: *Ibid.*

Exhibit 119: Teacher Disciplinary Control Over Classrooms

Source: U.S. Department of Education, National Center for Education Statistics, 1990-91 Teacher Survey of the Schools and Staffing Survey (SASS), unpublished tabulations, August 1992.

Exhibit 120: Teacher Beliefs About the School Environment

Source: *Ibid.*

Exhibit 121: Student Attitudes Toward Drug Use

Source: Lloyd D. Johnston, Patrick M. O'Malley, and Jerald G. Bachman, *Selected 1992 Outcome Measures from the Monitoring the Future Study for Goal 6 of the National Education Goals: A Special Report for the National Education Goals Panel* (Ann Arbor: University of Michigan's Institute for Social Research, August 1993).

Exhibit 122: Student Precautions to Ensure Personal Safety

Source: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey: 1993 School Safety and Discipline Component, unpublished tabulations prepared by Westat, Inc., August 1993.

Exhibit 123: Parent Precautions to Ensure Students' Safety

Source: *Ibid.*

Chapter 4: The Federal Role

Federal Financial Data Documentation

In developing the federal financial role description, there were financial and program participation data limitations which shaped the nature of this report:

- *The selection of the programs to be included in the report* – The broad nature of the Goals calls for a variety of activities that go beyond the traditional list of education programs. The combination of programs included in this Report, therefore, differs from other, narrower compilations of federal programs in education.

- *The resource data to be used* – Federal agencies were asked to provide financial data that best reflect the resources committed to programs in fiscal years 1989 (baseline), 1992, and 1993. The nature of the federal budget process, however, often produces significant differences between budget authority (the amount that may be spent), budget obligations (commitments to spend), and budget outlays (actual spending). In most cases, budget authority was used, and for any given program, the same resource measure is reported over the three-year period.

- *The classification or assignment of programs to specific Goal areas* – Assigning a dollar figure to individual Goals is not possible. Many programs provide services that cut across two or more of the Goals. Therefore, agencies and departments were asked to identify programs with Goal-related activities in one of three broad categories — Before School Years (through kindergarten), School Years (Grades 1 through 12), and Post-High School Years. Agencies were also allowed to use a residual "Other" category for programs that did not fit into these three general groups. When only parts of the programs supported the Goals, agencies estimated the proportion of funds for Goal-related activities in each of the three categories. While resource data will continue to be reported in three classifications, we hope that future Reports will allow more precise accounting of data in relation to the six individual Goals.

- *The use of participation data* – Where appropriate and available, participation data are included for the programs highlighted in this chapter. Where available, these data have been updated from the 1992 Report.

The Office of Management and Budget (OMB) provided the fiscal data for this chapter. Data were collected and organized to provide the Panel with 1993 estimates to contrast against its 1989 baseline information. OMB has made every effort to ensure the accuracy of the data and the appropriateness of its classification; however, some adjustments were necessary as further information became available. These adjustments are as follows:

1. Since actual figures are not known until after the close of the fiscal year, data reported for the current year are estimates. Last year's financial data have been "updated" in this report to reflect end-of-the-year information.

2. As in previous Reports, the program tables only list programs funded for at least $100 million in the current year.

3. Occasionally, a reporting agency may reconsider the classification of its Goal-related efforts. This may result in changes from one year to the next as programs are moved from one broad age category to another or are split between categories.

4. Programs for the training and education of military and related federal personnel are not reported. These programs are Goal-related activities for the post-high school years.

Constant Dollars

This report shows constant dollars and percent change comparisons from fiscal years 1989 to 1993. A composite adjuster from the Office of Management and Budget (Budget of the U.S. Government, Fiscal Year 1994) was used to compute constant dollars. 1989 and 1992 dollars were converted to 1993 constant dollars in the following way:

1.1558309 x 1989 current dollars =
1993 constant dollars.

1.028896 x 1992 current dollars =
1993 constant dollars.

APPENDIX B

DESCRIPTIONS OF FEDERAL PROGRAMS

Adult Education State Grants (Education) — Grants to states and localities for programs that enable adults to acquire basic skills and continue their education to at least the level of high school completion.

AFDC JOBS (HHS) — Aid to Families with Dependent Children Job Opportunities and Basic Skills Training. Funding to states for the provision of remedial education, training and work programs for welfare recipients.

BIA Indian Schools (Interior) — Bureau of Indian Affairs (BIA) funds for 180 elementary and secondary schools and dormitories for American Indians and Alaskan Natives.

Bilingual Education (Education) — Grants to assist school districts and other eligible grantees in the development and support of instructional programs for students with limited English proficiency.

CACFP (Agriculture) — The Child and Adult Care Food Program provides federal funds and Agriculture-donated foods to nonresidential child care and adult day care facilities to serve nutritious meals and snacks to participants.

Chapter 1 (Education) — Provides financial assistance to school districts to meet the special needs of educationally disadvantaged children who live in areas with high concentrations of children from low-income families.

Chapter 2 (Education) — Provides funds to states and localities to develop, implement, and expand innovative and effective education programs.

Child Care (Defense) — Provides child care for military and civilian employees of the Department of Defense at many military installations and Defense Agency Sites. Includes child care centers, part-day preschool programs, family child care homes, before- and after-school child care programs, and resource and referral programs.

Childhood Immunizations (HHS) — Grants to states for immunization services to protect children from many contagious diseases.

Civilian Training (Defense) — Provides both short- and long-term (up to one year) educational opportunities for qualified civilians in an effort to improve on-the-job skills or prepare for future career opportunities.

Classroom Instruction (Defense) — Defense Department-supported elementary and high schools for the dependents of military personnel both overseas and stateside.

CN Commodities (Agriculture) — Child Nutrition Commodities program provides commodities for the school meals and child care programs.

Community and Migrant Health Services (HHS) — Provides primary health services to the needy in areas that are medically underserved or have health care personnel shortages.

Dependent Education Assistance (Veterans) — Education assistance for immediate family members of veterans who died in service or were captured or missing in action.

Drug-Free Schools (Education) — Provides grants to states and localities to establish drug education and prevention programs for schoolchildren.

Eisenhower Mathematics/Science (Education) — Provides assistance to states and localities for programs to improve the quality of mathematics and science instruction.

EPSDT (HHS) — Early and Periodic Screening, Diagnosis, and Treatment services. A federally required benefit for Medicaid-eligible children from birth to age 21 that obligates states to provide for all necessary federally allowable Medicaid services regardless of the limitations in a particular state's plan.

FAA: Air Traffic Training (Transportation) — Comprised of the Airway Science Curriculum Program. A four-year educational program that emphasizes mathematics, science, technology, computer courses, and aviation to prepare entry-level people for jobs with the aviation industry.

Family Support Payments for Day Care (HHS) — Federal payments to states to support a proportion of day care costs for AFDC recipients attending job training and education classes or for day care costs during a one-year transition period for ex-AFDC recipients.

Flight Training (Defense) — Provides individual flying skills for pilots, navigators, and naval flight officers in fixed- and rotary-wing aircraft for qualified military members.

Food Stamp Employment and Training (Agriculture) — Federal grants to states to provide employment and training programs for able-bodied food stamp recipients.

Foster Care (HHS) — Federal payments to the states for AFDC (Aid to Families with Dependent Children) eligible children's substitute care.

G.I. Bill (Veterans) — This program category is a composite of three programs: the Post-Korean G.I. Bill, the Post-Vietnam Era Education Account, and the Montgomery G.I. Bill. All three provide monetary assistance for the post-secondary education of veterans.

Guaranteed Student Loans (Education) — Provides support for low-interest loans to students through commercial lenders to help pay for the cost of a post-secondary education.

Head Start (HHS) — An early childhood development program for disadvantaged and disabled children ages 3 to 5 that combines education, health care and nutrition, and active parental involvement to help children be healthy and ready for school.

Higher Education Aid for Institutional Development (Education) — Provides financial support for financially needy post-secondary institutions that serve disadvantaged students.

Higher Education Special Programs for Disadvantaged Youth (Education) — Support to higher education institutions for programs that provide support services for disadvantaged students to encourage participation in and completion of post-secondary education.

Howard University (Education) — Through a Congressional charter issued on March 2, 1867, funds are made available to aid in the construction, development, improvement, endowment, and maintenance of Howard University.

HRSA Health Professions Grants (Health Resources and Services Administration Health Professions Grants) (HHS) — Grants to health professions schools to support the training of health professionals: physicians, chiropractors, podiatrists, dentists, nurses, hospital administrators, etc.

Impact Aid Grants (Education) — Provides financial assistance to school districts whose enrollments are affected by federal activities, programs, and installations such as military bases.

Indian Health Service (HHS) — A public health service intended to raise the health of American Indians and Alaskan Natives.

Job Corps (Labor) — Residential education program that provides basic education and job skills for disadvantaged youth and adults ages 16 to 21.

JTPA (American Indians, migrants, etc.) (Labor) — The Job Training Partnership Act provides job placement and training for the disadvantaged among targeted groups: American Indians, American Samoans, migrants, veterans, and the homeless.

JTPA Title II-A&C (Labor) — Job Training Partnership Act. Federal assistance for alternative education and job skills programs serving disadvantaged youth and adults. The JTPA amendments created a separate youth program (Title II-C) which began on 7/1/93.

JTPA Title III (Labor) — Job Training Partnership Act. Federal programs for dislocated workers that emphasize retraining and reemployment services, tailored to workers' individual needs, including long-term job preparation.

JTPA Summer Jobs (Labor) — Job Training Partnership Act II-B Summer Youth and Employment Training Program provides jobs, education, and training for disadvantaged youths ages 14 to 21.

Magnet Schools (Education) — Provides funding for local school districts to establish, expand, or operate magnet schools; reduce or prevent minority group isolation; promote excellence through specialized programs (i.e., mathematics, science, the arts); and encourage parental choice in public schools.

Maritime Administration: U.S. Merchant Marine Academy (Transportation) — Comprised of the Merchant Marine Academy, a four-year full scholarship for Bachelor of Science degree/ merchant marine officer's license, and the State Maritime Program, a preparatory program for licensing in the U.S. Merchant Marine.

MCH Block Grant (HHS) — Maternal and Child Health Block Grant. Assistance to states for services to reduce infant mortality and improve the health status of mothers and young children.

Medicaid for Children (HHS) — Comprehensive health care for children from low-income families through the Medicaid Program.

Medical Training (Defense) — Includes a Health Professions Scholarship program, the Uniformed Services University of the Health Sciences, and training in civilian and military hospitals for both enlisted personnel and officers.

Medicare Payments to Hospitals (HHS) — Medicare funds for teaching hospitals used to cover a proportion of residents' salaries based upon the proportion of patients treated at the hospital that are Medicare patients.

National Agricultural Research Library (Agriculture)— Serves as the nation's chief agricultural information resource by providing agricultural information products and services.

National Highway Institute (Transportation) — Comprised of the Federal Highway Administration (FHWA) Grants for Research Fellowships Program that offers college credit to students to conduct research projects in a work environment. Also comprised of the FHWA College Curriculum Program that develops materials, text, and audiovisual aids for colleges and universities, and conducts courses for college and engineering faculty.

National Security Education Scholarships (Defense) — Grants, scholarships, and fellowships to students, colleges, and universities to: meet national security needs; strengthen teaching in language, area and international studies; interest people in government jobs; and strengthen government support for international education.

NIH Research Training (HHS) — Grants to institutions and individuals for research science training in biomedical fields. Many of the funds are used to support graduate students and post-doctoral fellows in biomedical laboratories. A small proportion of the funds support undergraduates as well as medical doctors who plan research careers.

Officer Acquisition (Defense) — Provides pre-commissioning training, including the Service Academies and the Officer Candidate/Officer Training Programs, used to recruit and train qualified officers.

Payments to States for Day Care (HHS) — Child care block grants that provide payments to states to help low-income families pay for day care.

Pell Grants (Education) — Federal student aid program that provides grant awards to low-income qualified students to defray the cost of post-secondary education.

Perkins Loans (Education) — Program to help financially needy undergraduates and graduate students meet the costs of education by providing low-interest, long-term loans through the post-secondary institutions.

Professional Development Education (Defense) — Provides advanced training for military members at both military and civilian institutions, and is designed to broaden the outlook and knowledge of individuals selected for more demanding command and staff positions.

Recruit Training (Defense) — Basic indoctrination training to enlisted personnel upon their initial entry into military service that emphasizes discipline, military rules, social conduct, physical conditioning, and development of self-confidence.

ROTC (Defense) — The Reserve Officers Training Program. At the college level, ROTC provides both scholarship and non-scholarship opportunities to achieve an officer commission, and requires a four-year service commitment.

School Meals Programs (Agriculture) — This program category consists of the following four Department of Agriculture programs: *School Breakfast Program*: low-income children may qualify for free or reduced priced breakfasts; *National School Lunch Program*: low-income students in elementary and secondary schools and residential child care centers may qualify to receive free or reduced-price meals; *Summer Food Service Program*: provides food service to children in needy

areas during summer vacation; and *Special Milk Program*: low-income children may qualify to receive their milk free in schools, summer camps, and child care institutions that have no other federal nutrition program, as well as kindergarten children who attend half-day sessions and have no access to meal programs provided by the schools.

Special Education (Education) — Provides funds to initiate, expand, and improve educational programs for disabled students in partnership with the states and localities.

Special Education Basic State Grants (Education) — Funds to assure that all children with disabilities have available to them a free, appropriate public education, which includes special education and related services to meet each child's unique needs.

Specialized Skills Training (Defense) — Provides officers and enlisted personnel with new or higher levels of skills in military specialties or functional areas to match specific job requirements.

Supplemental Educational Opportunity Grant (Education) — Program to help financially needy undergraduate students meet the cost of their education by providing supplementary grant assistance through participating post-secondary institutions.

Teacher Enhancement (NSF) — Provides support for projects which work with teachers to improve science, mathematics, and technology education in the schools.

Vocational Education Basic State Grants (Education) — Funds to help states and outlying areas to ensure equal opportunity in vocational education for traditionally underserved populations, and to improve the quality of vocational education programs for the nation's work force.

Vocational Rehabilitation State Grants (Education) — Supplements state efforts to provide comprehensive rehabilitation services to disabled individuals to become gainfully employed.

Vocational Rehabilitation (Veterans) — This program provides tuition, supplies, and tutoring as well as a subsistence allowance for the vocational training, evaluation, and case management of service-connected disabled veterans.

Voluntary Education (Defense) — A program for off-duty education for officers and enlisted personnel, primarily in the pursuit of an academic degree. Veterans Educational Assistance Program (VEAP) provides matching educational entitlement for qualified veterans.

WIC (Agriculture) — The Special Supplemental Food Program for Women, Infants and Children. Provides nutrition assistance and education to at-risk pregnant women and young children from birth to five years of age.

Work Study Grants (Education) — Program to help financially needy undergraduates and graduate students to meet the costs of their education at participating post-secondary institutions by helping institutions to provide on- and off-campus part-time employment for students.

APPENDIX C

FULL FEDERAL DEPARTMENT/AGENCY TITLES

ACTION	ACTION
Agriculture	Department of Agriculture
BGSF	Barry Goldwater Scholarships and Excellence in Education Foundation
Commerce	Department of Commerce
CPB	Corporation for Public Broadcasting
Defense	Department of Defense
Education	Department of Education
Energy	Department of Energy
EPA	Environmental Protection Agency
HHS	Department of Health and Human Services
Housing	Department of Housing and Urban Development
HST	Harry S Truman Scholarship Foundation
IMS	Institute for Museum Services
Interior	Department of the Interior
JMMFF	James Madison Memorial Fellowship Foundation
JTPA	Job Training Partnership Act
Justice	Department of Justice
Labor	Department of Labor
NAEP	National Assessment of Educational Progress
NAGB	National Assessment Governing Board
NASA	National Aeronautics and Space Administration
NEA	National Endowment for the Arts
NEH	National Endowment for the Humanities
NIH	National Institutes of Health
NSF	National Science Foundation
OERI	Office of Educational Research and Improvement
OMB	Office of Management and Budget
OPM	Office of Personnel Management
Smithsonian	Smithsonian Institution
State	Department of State
Transportation	Department of Transportation
Veterans	Department of Veterans Affairs

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